Risk-Based Cleanup Plan Inner and Outer Slip Areas NSTAR Gas Facility, New Bedford, Massachusetts June 2010

Appendix B

Sediment Coring Logs

Page 1 of 1 RAM-SA-1 **BORING ID Project #** 206.2.2 RAM WELL ID ENVIRONMENTAL One Roberts Road REMEDIATION • ASSESSMENT • MANAGEMENT Plymouth MA 02360 Date Finished 3/30/98 Date Started 3/30/98 SoilEx Drilling Co. Project Name New Bedford/Com Gas ComGas Client Drive and Wash Drill Method 2421 Cranberry Highway Address 180 MacArther Drive Address Brad, Mike, Dave **Driller** J.M. RAM Engineer Wareham, MA City New Bedford, MA City SURVEY CORE GROUNDWATER SAMPLER CASING N/A N/A Lat. N/A Type Split-spoon Date N/A Туре N/A N/A Long. Type N/A Size 21-2" OD WL (ref.) 4" ID Size Elev. (ft) N/A Size N/A N/A Length Hammer 140 lbs WL (bgs.) 250 lbs Hammer N/A GW Elev. 30 inch Fall 30 inch Fall Well Completion Depth (feet) Classification Recovery (in) PID (ppmv) Blow Count Depth (feet) Lithology Description Water/sediment interface at 19' Black, coal tar residual, silty sands, sands-silt mixture. Slight petroleum odor. SM 84.0 11,18.31,50 24" 9/11 Orangish/black brittle rock. Poorly graded gravels, gravel-sand mixtures, little or no fines. slight sheen on GP 57.1 6" 140/3" 11/13 sampler observed NOTES:

BORING ID RAM-SA-2 WELL ID ENVIRONMENTAL One Roberts Road REMEDIATION • ASSESSMENT • MANAGEMENT Plymouth, MA 02360 Date Started 3/31/98 Date Finished 3/31/98

Project # 206.2.2

Page 1 of 1

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Project N	-					Client	COMGas/Witco	Drilling Co.				
Address	13	80 MacA	rther	Drive		Addres			Drive an			
						۵۰.	Wareham, MA	<u>Driller</u>		ike, Dave		
City		ew Bedfo	ord, N			City	Greenwich, CT,	RAM Engineer	J.M.	SURVEY		
C. Type Size	ASING Steel 4" ID		Type Split-sp Size 2'-2" OI				on Date 3/31/98 Type N/A Lat.					
Hammer	300 18		Ham	mer 14	0 lbs		WL (bgs.) N/A	Length N/A	Elev.	(ft)		
Fall	30"		Fall	30	inch		GW Elev. N/A					
Sample ID	Depth (feet)	Blow Count	Recovery (in)	PID (ppmv)	Lithology	Classification	Descripti	ion		Well Completion	Donth (fast)	
Sar ⊘	ದ	ă	Re	па	Ë	บี	•			ပိ	ع ا	
							Water/sediment interfac					
*0/2	20	wos	6"	73.5	9 9	SM		silty sands, sands-silt mixt d. Sheen on sampler obse			-	
2/4	F =	13,17,23,32	24"	43.9	استريق	SM	Grayish black silty-sand odor observed.	s, sand-silt mixture. Petrol	eum		F	
4/6	 	7,14,51,14	6"	30.5	-4121	sw	Grayish black well grad or no fines. Sheen on sa	ed sands, gravelly sands, l mpler observed.	ittle	1	F	
6/8	25	23,26,26,26	6"	156		sw	Gray black well graded observed.	sands, gravelly, sheen			-	
8/10		40,59,53,42	6"	47.1		SP	Gray poorly-graded san fines saurated with a pel sampler observed.	ds, gravelly sands little or troleum odor. Light sheen	no on			
*10/12	30_	46,58,62,50	6"	63.3		SP	Saturated gray poorly-guittle or no fines. Petrole observed.	raded sands, gravelly sand rum like odor and sheen	s,			
	<u> </u>]										
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	<u> </u>	4			1						 -	

BORING ID RAM-SA-3 Page 1 of 1 WELL ID **Project** # 206.2.2 ENVIRONMENTAL One Roberts Road
REMEDIATION • ASSESSMENT • MANAGEMENT Plymouth, MA 02360 Date Started 3/31/98 Date Finished 3/31/98 Client COMGas/Witco Drilling Co. SoilEx Project Name 2421 Cranberry Highway Address 180 MacArther Drive Address Drill Method Drive and Wash Wareham, MA <u>Driller</u> Brad, Mike, Dave New Bedford, MA City City Greenwich, CT, RAM Engineer J.M. GROUNDWATER CASING SAMPLER CORE **SURVEY** Steel Split-spoon 3/31/98 N/A Type Type Date Type Lat. 21-211 OD 4" ID N/A N/A Size Size WL (ref.) Size Long. Hammer 300 lb Hammer 140 lbs N/A N/A WL (bgs.) Elev. (ft) Length 30" 30 inch N/A Fall Fall GW Elev. Recovery (in) Classification Well. Completion Blow Count PID (ppmv) Depth (feet) Depth (feet) Sample ID Lithology Description Water/sediment interface at 19' Black, coal tar residual, silty sands, sand-silt mixture. WOS 24" 1594 SM *0/2 Heavy sheen observed. Black, coal tar residual, silty sands, sand-silt mixture. 2/4 wos 12" 1382 SM Heavy sheen observed. 0-18" Black, coal tar residual silty sands, sand-silt 29,16,20,27 24" 811 SM 4/6 mixture. Petroleum odor and sheen observed.

18-24" Well graded sands, gravelly along with fine silty sands. Petroleum odor and sheen observed. *****6/8 30,107 24" 755 SM 0-6" Black coal tar residual, silty sands, sand-silt 658 SM mixture. Petroleum odor and sheen observed. 8A 6-24" Well graded sands, gravelly, along with fine silty sands petroleum odor observed. Blackish, brown silty-sands sand-silt mixture, strong petroleum odor and staining observed. NOTES: WOS-Weight Of Spoon *Sample submitted for laboratiry analysis

BORING ID RAM-SA-4 Page 1 of 1 RAM **Project #** 206.2.2 WELL ID VIRONMENTAL One Roberts Road REMEDIATION • ASSESSMENT • MANAGEMENT Plymouth, MA 02360 Date Finished 4/1/98 Date Started 4/1/98 SoilEx COMGas/Witco Drilling Co. Client Project Name Drill Method Drive and Wash 2421 Cranberry Highway Address 180 MacArther Drive Address Wareham, MA Driller Mike, Dave, Paul RAM Engineer J.M. City Greenwich, CT, New Bedford, MA City SURVEY **GROUNDWATER** SAMPLER **CASING** N/A 4/1/98 Lat. Split-spoon Date Type Steel Type Type 2'-2" OD N/A N/A 4" ID Size Long. WL (ref.) Size Size Hammer 140 lbs N/A Elev. (ft) Hammer 300 lb N/A WL (bgs.) Length N/A 30" 30 inch GW Elev. Fall Fall Depth (feet) Completion Ξ Blow Count PID (ppmv) Depth (feet) Sample ID Lithology Recovery Description Water/sediment interface at 19' Black, coal tar residual. Strong petroleum odor SP 24" 251 WOS observed. Heavy sheen observed. 0/2 Black, coal tar residual, poorly-graded sands, gravelly SP 24' 311 *2/4 WOS sands along with silty sand. Black, coal tar residual silty-sands, sand-silt mixture. SM 3,26,60,100 24" 391 4/6 Heavy sheen observed. Petroleum odor observed 0-12" Black, coal far residual, silty-sands, sand-silt SM mixture. Strong petroleum and heavy sheen observed.

12-24" Gray inorganic silts and very fine sands, silty or clayey fine sands or clayey silts. Slight sheen and slight 24' 205 6/8 6,115,105,9 116-100/3" 120 SC 8/9 SC petroleum odor observed. Gray, clayey sands, sand-clay mixture. Slight petroleum 254 ***9/10** 120-109/3" 6" odor and light sheen observed. Black staining on sampler observed. 0-3" Gray well graded sands, gravelly sands, little or no 3-6" Grayish, black, clayey sands, sand-clay mixture Strong petroleum odor and heavy sheen observed.

Black areas of staining on sampler observed. NOTES: WOS- Weight Of Spoon

BORING ID RAM-OSA1 Page I of I **Project # 206.2.3** VIRONMENTAL One Roberts Road REMEDIATION • ASSESSMENT • MANAGEMENT Plymouth, MA 02360 Date Started 8/12/98 Date Finished 8/12/98 Client COMGas/Witco Drilling Co. TG&B Marine Project Name Vibratory Hammer Drill Method 2421 Cranberry Highway 180 MacArthur Drive <u>Address</u> Address Driller Mark Avakian RAM Engineer John Mesheau City Wareham, MA New Bedford, MA <u>City</u> **GROUNDWATER** CORE SURVEY SAMPLER CASING N/A Aluminum N/A Type Not Recorded Aluminum Date Lat Туре Type N/A N/A 3" OD Size Long. Not Recorded 3" OD WL (ref.) Size Size Hammer N/A N/A Continuous Elev. (ft) Hammer Vibratory Length WL (bgs.) N/A N/A GW Elev. Fall N/A Fall Classification Completion PID (ppmv) Recovery (ft) Blow Count Lithology Sample I Well Depth (Depth (Description Black coal tar like residual, some gravel, saturated, strong coal tar like odor with a heavy, light blue/silver sheen, in some places sheen has red, purple, and yellow streaks. RAM-2 51.2 OSA1-0/2 Black coal tar like residual, with some coarse sand and fine gravel, saturated, strong coal tar like odor and sheen similar to above, sample is less watery with RAMdepth. 185 2 OSA1-2/4 Black coal tar like residual with fine to medium sand, saturated, strong coal tar odor and sheen similar to RAM-2 149 Brown fine to medium SAND, saturated, strong coal tar OSA1-4/ like odor, light blue sheen. Brown fine SAND with some silt, strong coal tar odor, no sheen. RAM-1 41.9 OSA1-7 . 10 NOTES: Sample collected in continuous aluminum sleeve. Samples RAM-OSA1-0/2 and RAM-OSA1-6/8 submitted for laboratory analysis.

Height of water column = 8.8 ft.

*					36	BORING ID RAM-OSA2 Page 1 of	
RAI	M	19				Project # 206.2.3	
ENVI	RONME ASSESSMENT		AL On	ie Rober ymouth,	ts Roa MA 07	Road	
Project Nan					Client		
Address	180 Mac/	Arthur	Drive		Addres	ress 2421 Cranberry Highway Drill Method Vibratory Hammer	_
						Driller Mark Anakian	_
City	New Bed	ford, N			ity		_
Type Alt	SING uminum 3" OD ibratory N/A	Type Size Ham Fall		A A	=4	GROUNDWATER Date N/A WL (ref.) WL (bgs.) N/A GW Elev. N/A CORE Aluminum Size 3" OD Length Continuous Continuous Elev. (ft)	8801 N 1378 V
	Depth (feet)	Recovery (ft)	PID (ppmv)	Lithology	Classification	Mell Completion	Depth (feet)
 					117	Black coal tar like residual with fine gravel, saturated, blue/silver sheen, coal tar like odor.	
RAM- OSA2-0/2		2	134			As above (0-2 ft), with cobbles	- -
RAM- OSA2-2/4	. 🚽	2	540				
RAM- OSA2-4/6	_ 5	2	724			Black coal tar like residual with coarse sand, fine gravel, some cobbles, saturated, strong coal tar like odor and sheen similar to 0-2 feet.	_5_
RAM-		2	341			Black coal tar like residual with coarse sand, saturated, strong coal tar like odor and sheen similar to 0-2 feet.	-
OSA2-6/8	-	_		:		As above (6-8 ft).	
RAM- OSA2- 8/10		ī	233				-10-
					,		
NOTES: for VPH/ER RAM-OSA	Collected st PH. Height of v 2-8/10 submitted	water co	olumn = 2	21 ft. Sa	ample (-OSA2-SW) and duplicate (RAM-QA/QC-500). Collected soil sample RAM-OSA2-2/4 ple collected in continuous aluminum sleeve. Samples RAM-OSA2-0/2, RAM-OSA2-4/6	6 and

176							BORING ID RAM-OSA3	Page 1 of 1	
RA Envi	DON	VME	NT.	۸L۰	ne Rober	ts Road		# 206.2.3	
REMEDIATION	• ASSES	SMENT •	MANAG	EMENT PI	ymouth,	MA 02.	Date Started 8/12/98 Date Finished 8/12/98		4
Project N						lient		Marine	
Address	18	0 MacA	rthur	Drive	A	ddres		ry Hammer	ı
City New Bedford, MA City								Anakian Mesheau	ı
	ASING		,, r.	SAM		=	GROUNDWATER CORE	SURVEY	1
Type A	Uuminu	ım	Туре	N/4	A		Date N/A Type Aluminum Lat.		8
Size	3" OD Vibrator		Size	N/A umer N/A			17.5 (101.) J.20	g. 70 deg 55.1650 v. (ft)	1
Hammer]	N/A		Fall	N/	A		GW Elev. N/A		1
Sample ID	Depth (feet)	Blow Count	Recovery (ft)	PID (ppmv)	Lithology.	Classification	Description	Well Completion Depth (feet)	
RAM- OSA3-9/2		2	2	17.4	-	SP	Brownish black fine to medium SAND with sea shells throughout, saturated, coal tar like odor, slight light blue/silver sheen.		1
						SP	As above (0-2 ft).	- ·	1
RAM- OSA3-2/4			2	62.7	9 9 9 9 9 9	SM	Brownish black suty SAND, saturated, coal tar like odor, red, violet, blue sheen	- -	$\frac{1}{1}$
				1/		sw	Brown coarse SAND and GRAVEL, saturated, coal tar like odor, no sheen	7	1
RAM- OSA3-5			1	39.0		sw	Brown coarse SAND and GRAVEL, saturated, coal tar like odor, no sheen		
	5			٠					
25							·		
	- 	*			18				1
	-								1
				1948		2			1
	10								닉
			27						-
			1						

NOTES: Height of water column = 16 ft. RAM-OSA3, one soil sample for VPH/EPH analysis. Sample collected in continuous aluminum sleeve. Samples RAM-OSA3-0/2, RAM QA/QC-400, RAM-OSA3-4/6 submitted for laboratory analysis.

ď							BORING ID	R.	AM-OSA6		Page	lofl	
$\mathbb{R}A$	M								Proj	ect#	206.2	2.3	
Env	IRO]	VME SMENT •	NT	AL O	ne Robei ymouth.	rts Road MA 023	1	 88	Date Finished 8/13	/98			
REMEDIATION		SAMENI	WINNAGO	CMSM1		Client				TG&B M	Marine		\dashv
Project N Address	-	30 MacA	rthur	Drive		ddress		2421 Cranberry Highway Drill Method Vibratory Hammer					-
<u> </u>									Driller				-
City	N	ew Bedf	ord, N	ΛA		lity	Wareham, MA			John Me			
Type A	ASING	ium Type N/A					Date N/A						42
Size Hammer Fall	3" OL Vibrato N/A		Size Ham Fall	mer N/ N/	A		WL (ref.) N/A N/A GW Elev. N/A	Size Leng		Long. Elev. (70 deg	, ,,,,,	
		ij	T 1	<u>S</u>	2	tion		<u> </u>	8		tion	(100	(Leer)
Sample ID	Depth (feet)	Blow Count	Recovery (ft)	PID (ppmv)	Lithology	Classification	Descrip	tion		SI .	Well Completion	4	Depun (reer)
- S	Ω	_ д	<u> </u>	<u>a. </u>			Black coal tar like resid throughout (consistency hydrogen sulfide like o	y of bro	wnie mix), saturated,				
RAM- OSA6-0/2			2	47.5			nydrogen sumue mee o	uo1, 110				-	+
	_						Black coal far like residues vegetation), sea shells a sand, grittier than 0-2 f	ınd deb	ris (wood), some med	lium			
RAM- OSA6-2/4			2	34.1			sulfide like odor, no sh	een.	ar, samanes, ny aroge	•	1190		\dashv
00.10 2											*		
	 - -]]			As above (2-4 ft).		······································				7
RAM-			2	38.2			ä.						5
OSA6-4/6	- 3-			30.2			Black coarse SAND was saturated, petroleum lii locations from 4-6 ft.	ith coal ce odor	far likeresidual, , grittier than other				
					ļ.,,]	As above (2-4 ft). Black SILT and mediu	m SAN	D. saturated, hydroge	n n	5	-	4
19							sulfide like odor, no sh						١
RAM- OSA6-6/8	├ -		2	66.9			Black coarse SAND w	ith petr	oleum residuals,		1	-	4
					T		saturated, petroleum li Same as 6-7 it with sor roots, vegetation).	ne libe	rous material (organic	ప,			ĺ
Ì	<u> </u>						1000, 1000-0-0-0				ļ		٦
RAM- OSA6-	ļ		2.5	256				······································		la		_	. 4
8/10	Γ -			+			Black petroleum like r (organics, vegetation), saturated, petroleum li	and co	arse sand, trace grave	l,			
	10_						Zamiatou, ponotoniii ii		,			-	10
	-	-		¥									
							¥						
NOTES	<u> </u>			. continu	oue alu-	ninum e	leeve. Samples RAM-OSA6	-0/2_ R	AM-OSA6-4/6 and R	AM-OSA6	-8/10 subn	nitted	
for labor			cteu III	, wantu	- www.		10.31 <u></u>						

Page 1 of 1 SSB-1 **BORING ID Project #** 206.2.7 WELL ID ENVIRONMENTAL One Roberts Road
REMEDIATION • ASSESSMENT • MANAGEMENT Plymouth, MA 02360 Date Finished 7/14/99 Date Started 7/14/99 Guild Drilling Drilling Co. Commonwealth Gas Company Client Project Name New Bedford Drive and Wash Drill Method 2421 Cranberry Highway <u>Address</u> 180 MacArthur Drive Address John/Pete Driller RAM Engineer John Mesheau New Bedford, MA Wareham, MA City City **SURVEY** GROUNDWATER CORE SAMPLER CASING N/A 7/14/99 Type Lat. Split-spoon Date Steel Type Type N/A Long. 2'-2" OD N/A 4" ID Size WL (ref.) Size Size N/A Hammer 140 lbs N/A Elev. (ft) Length 300 lb · WL (bgs.) Hammer 30" 30 inch GW Elev. N/A Fall Fall Well Completion Classification Depth (feet) PID (ppmv) Blow Count Depth (feet) Lithology Recovery Sample I Description Water sediment interface at 17 feet. black COAL TAR LIKE RESIDUAL, some silt and fine sand saturated (consistancy of mayo), with iridescent sheen (red/blue/green) and coal tar like odor. wos 24 1054 black medium to coarse SAND, some fine gravel, little SB1-SW 1038 silt saturated with iridescent sheen, (red/blue/yellow) 10-15-10-7 6,5/8.5 and coal tar like odor. black medium to coarse SAND saturated with SB1-803 SW 18 14-18-24-27 iridescent sheen (red/blue/yellow) and coal tar like 8.5/10.5 SW SB1brownish gray coarse SAND, saturated, no sheen, coal tar like odor. 29-27-15-31 7.8/29 ML 10.5/12.5 brownish gray SILT, saturated, coal tar like residual. brownish gray coarse SAND and SILT, saturated, no SB1-10-11-13-18 106 SM 105 12.5/14.5 SB1sheen coal tar like odor. NA 100/3 NA No recovery.
Roller bit refusal 32.5' 14.5/16.5 NOTES:

Page 1 of 1 **BORING ID** SSB-2 WELL ID PZ-1 **Project #** 206.2.7 ENVIRONMENTAL One Roberts Road REMEDIATION • ASSESSMENT • MANAGEMENT Plymouth, MA 02360 Date Finished 7/15/99 Date Started 7/15/99 Guild Drilling Commonwealth Gas Company Drilling Co. Project Name New Bedford Client Drive and Wash Drill Method 2421 Cranberry Highway <u>Address</u> 180 MacArthur Drive <u>Address</u> John/Pete **Driller** John Mesheau RAM Engineer New Bedford, MA City Wareham, MA City GROUNDWATER SURVEY CORE SAMPLER CASING 7/15/99 Lat. Split-spoon Steel Type Date Type Type 21-2" OD N/A Size N/A Long. 4" ID WL (ref.) Size Size Hammer 140 lbs N/A N/A Length Elev. (ft) 300 lb WL (bgs.) Hammer 30 inch N/A 30" GW Elev. Fall Fall Well Completion Classification Depth (feet) Blow Count (bpmv) Depth (feet) Lithology Recovery Sample J Description PID(Water sediment interface at 11.5'. black COAL TAR LIKE RESIDUAL, some organics (roots), trace medium sand. (consistancy of mayo) with iridescent (red/blue/yellow) sheen and coal tar like 12 615 SB2-0/3. wos no recovery. SB2-7-3-3-3 0 NA 3.5/5.5 black coarse to medium SAND, some fine gravel, SB2-1591 SP saturated, pockets of free phase coal tar like residual, 2-12-13-14 12 5.5/7.5 iridescent (red/blue/yellow) sheen, coal tar like odor. grayish black medium to coarse SAND, some fine SB2-<2000 SP 10-13-17-20 6 gravel, trace silt, saturated, pockets of free phase coal 7.5/9.5 tar like residual, iridescent blue sheen, coal tar like SB2-SP 20-16-13-12 1003 odor. gray fine to coarse SAND, some silt, saturated iridiscent blue sheen, coal tar like odor.
gray black fine GRAVEL and coarse sand, iridescent blue sheen coal tar like odor. 9.5/11.5 SB2-GP 309 12 20-21-16-19 11.5/13.5 SB2-14-16-61 18 727 GP same as above. 13.5/15.5 roller bit refusal at 27'. NOTES: Schedule 40 PVC 0.010 slotted well screen from 20' to 25', filter pack sand 19' to 27', bentonite from 15' to 19', with native material from

11.5' to 15'.

Page 1 of 1 **BORING ID** SSB-3 **Project #** 206.2.7 WELL ID ENVIRONMENTAL One Roberts Road REMEDIATION • ASSESSMENT • MANAGEMENT Plymouth, MA 02360 Date Started 7/15/99 Date Finished 7/15/99 Commonwealth Gas Company Drilling Co. Guild Drilling Project Name New Bedford Client Drive and Wash **Address** 2421 Cranberry Highway Drill Method 180 MacArthur Drive Address John/Pete Driller RAM Engineer John Mesheau Wareham, MA City New Bedford, MA City SURVEY **GROUNDWATER** CORE **SAMPLER CASING** N/A 7/15/99 Lat. Split-spoon Steel Date Type Type Type 2'-2" OD N/A Long. 4" ID N/A Size WL (ref.) Size Size N/A Hammer 140 lbs N/A Elev. (ft) 300 lb WL (bgs.) Length Hammer N/A 30 inch 30" GW Elev. Fall Fall Classification Depth (feet) Completion (feet) Blow Count PID (ppmv) Lithology Recovery Sample] Depth (Description Water sediment interface at 17 feet. black COAL TAR LIKE RESIDUALS some fine sand and silt with cosistency of tomato paste, saturated, some debris (appears to be newspaper), iridescent (red/blue/yellow) sheen, coal tar like odor, 1967 WOS 18 black fine to coarse GRAVEL, some medium to coarse SB3->2000 GP 18 8-12-14-13 sand and cobbles, saturated, iridescent (red/ 7.5/9.5 blue/yellow) sheen, pockets of free phase coal tar like SB3-GP residual, coal tar like odor. >2000 13-14-20-24 12 black fine GRAVEL and coarse SAND, some silt in 9,5/11.5 bottom 6 inches of spoon, trace coarse gravel, saturated, GP SB3-18 922 35-62-98 iridescent (red/blue/yellow) sheen, pockets of free 11.5/13.5 ML phase coal tar like residual, coal tar like odor gray fine GRAVEL and coarse SAND, saturated, iridescent (red/blue/yellow) sheen, coal tar like odor, gray SILT, some coarse gravel, saturated, no sheen, coal tar like odor, roller bit refusal at 31.5 NOTES:

Page 1 of 1 **BORING ID** SSB-4 **Project #** 206.2.7 WELL ID ENVIRONMENTAL One Roberts Road REMEDIATION • ASSESSMENT • MANAGEMENT Plymouth, MA 02360 Date Started 7/15/99 Date Finished 7/16/99 Drilling Co. Guild Drilling Project Name New Bedford Client Commonwealth Gas Company Drive and Wash **Drill Method** 2421 Cranberry Highway 180 MacArthur Drive Address Address John/Pete Driller John Mesheau Wareham, MA RAM Engineer **City** City New Bedford, MA **SURVEY** SAMPLER **GROUNDWATER** CORE **CASING** N/A 7/16/99 Lat. Steel Split-spoon Date Туре Type Type 2'-2" OD N/A Long. N/A Size 4" ID Size WL (ref.) Size Hammer 140 lbs N/A N/A Elev. (ft) 300 lb WL (bgs.) Length Hammer 30 inch N/A 30" GW Elev. Fall Fall Well Completion Classification Depth (feet) Depth (feet) Blow Count PID (ppmv) Lithology Recovery Description Water sediment interface at 13.5'. black COAL TAR LIKE RESIDUAL, some fine sand and silt, saturated, consistency of tomato paste, iridescent (red/blue/yellow) sheen wos 18 1484 B4-0/10.5 black coarse SAND and fine GRAVEL, saturated, SB4-1503 GP iridescent (red/blue/yellow) sheen, coal tar like odor, pockets of free phase coal tar like residual gray medium to coarse SAND, some silt and fine 12 13-14-20-33 10.5/12.5 SB4-SP 341 13-14-20-53 6 gravel, saturated, iridescent blue sheen, coal tar like 12.5/14.5 SB4-SM 189 45-51-63 18 gray fine to medium SAND, some silt and fine gravel, 14.5/16.5 saturated iridescent blue sheen, bottom 9 inches gray SILT, fine to coarse gravel, coal tar like odor. roller bit refusal at 30'. NOTES:

Page 1 of 1 **BORING ID** SSB-5 **Project #** 206.2.7 PZ-2 WELL ID ENVIRONMENTAL One Roberts Road
REMEDIATION • ASSESSMENT • MANAGEMENT Plymouth, MA 02360 Date Started 7/16/99 Date Finished 7/16/99 Commonwealth Gas Company Drilling Co. Guild Drilling Client Project Name New Bedford Drive and Wash 2421 Cranberry Highway Drill Method 180 MacArthur Drive Address Address John/Pete Driller RAM Engineer John Mesheau Wareham, MA New Bedford, MA City City **SURVEY** GROUNDWATER CORE CASING SAMPLER N/A Split-spoon 7/16/99 Lat. Date Type Steel Type Type N/A Long. 2'-2" OD WL (ref.) N/A Size 4" ID Size Size N/A Elev. (ft) Hammer 140 lbs N/A WL (bgs.) Length 300 lb Hammer N/A 30 inch GW Elev. 30" Fall Fall Classification Completion Blow Count PID (ppmv) Depth (feet) Lithology Recovery Sample Depth (Description Water sediment interface at 16.5'. black COAL TAR LIKE RESIDUAL, some fine sand and silt, saturated (consistancy of tomato paste) with iridescent (red/blue/yellow) sheen, pockets of free phase coal tar like residual, coal tar like odor wos >2000 SB5-0/8.5 gray medium to coarse SAND and fine GRAVEL with lenses of SILT from 9 to 12 inches, saturated, at 12 SP SB5-157 15 20-14-24-15 8.5/10.5 inches gray silty sand, no sheen, coal tar like odor gray/black medium to fine SAND, some coarse gravel, SP SB5-633 saturated with iridescent blue sheen, coal tar like odor. 11-13-25-75 24 11/13 Bottom 6 inches silty sand with some coarse gravel. SM brownish gray SILTY SAND, saturated no sheen, coal SB5-17-18-100/3 6 141 tar like odor 13/15 Roller bit refusal at 31.5' NOTES: Schedule 40 PVC 0.010 slotted well screen from 26.5' to 31.5', filter pack sand from 25.5' to 31.5', betonite seal from 22.5' to 25.5' native material from 16.5' to 25.5'

LIGH	TSHIP	
ENGIN	EERING	

5

7

9.5

7

9,5

11.5

SED-1A

N/A N/A N/A N/A

N/A N/A N/A N/A

N/A N/A N/A N/A

Start Date: January 3, 2007 End Date: January 3, 2007 ENVIRONMENTAL & LAND-USE CONSULTANTS Client Name: NSTAR Drilling Co.: TG&B Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive Driller: Lightship Rep.: B.LaPierre & N.Abreu City: New Bedford State: Massachusetts Surface Water Casing Sampler Core Survey Type: N/A Type: Aluminum Date: N/A N/A Type: N/A Lat. Size: N/A 8ft, 3.0 OD N/A N/A Size: WL (ref.): Size: N/A Long. Hammer: N/A Hammer: N/A WL (bgs): 4.21 feet Length: N/A Elev. N/A Fall: N/A Fall: N/A SW Elev.: N/A Start Finish Recovery **TOVs** Lithology Well Sample ID **Blow Count** Description Depth Depth (inches) (USCS) (ppmv) Const. Water and sediment interface at approximately 17 feet below the bulkhead. Black, fine to coarse SAND (asphalt-like consistency), some 0 1 N/A N/A N/A N/A 12 NA SP silt. Coal tar observed. Coal tarlike odor detected. Black, organic SILT, some fine 1 3 N/A N/A N/A 24 NA OL sand. Coal tar pockets observed. Coal tar-like odor detected. Black, organic SILT, some fine 3 5 SED-1/2* N/A N/A N/A N/A 24 OLNA sand. Coal tar pockets observed. Coal tar-like odor detected. Black, organic SILT, some fine

NA

NA

NA

OL

OL

SW

sand. Coal tar pockets observed. Coal tar-like odor detected.

Black, organic SILT, some fine

sand. Coal tar pockets observed. Coal tar-like odor detected.

Black, medium to coarse SAND, some fine to coarse gravel, little

fine sand. Coal tar observed. Coal

tar-like odor detected.

Notes: Soil samples were collected for total organic vapor ("TOV") screening. *Indicates soil sample collected and composited with soil samples from sediment core SED2-0/8.

24

30

24

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ENVIRO	NMENTAL &	LAND-USE CO	SNC	ULT	ANT	\$	L						
C	lient Name:	NSTAR		—	_					Drilling Co.:	TG&B		
	oject Name:					_			-	Drilling Method:	Vibratory Cor	re	
		180 MacArth	ur D	rive	<u>; </u>	_			<u>.</u> -	Driller:			
									- -	Lightship Rep.:	B.LaPierre &	N.Abreu	
	City	New Bedford	_		_		State:	Massachusett	S				
	sing	Sa	mple	_			Surfac	e Water		Core	Survey		
Type:		Type:		Alun		_	Date:		Type:		Lat.	N/A	
Size:	N/A	Size:	_	3ft, 3)D	WL (ref.):		Size:		Long.		
Hammer:	N/A	Hammer:	_		I/A		WL (bgs):		Length:	: <u>N/A</u>	Elev.	N/A	
Fall:	N/A	Fall:		=	I/A		SW Elev.:	N/A			<u> </u>		
Start	Finish	Commis ID	Sample ID Blow Count					TOVs	Lithology			Well	
Depth	Depth	Sample ID	Ь	low	Cou	int	(inches)	(ppmv)	(USCS)	Descrip	ption	Const.	
		Water	and	-adii		inter	face at approvin	mately 17 feet be	1 sh a boottob a a	1			
		w alci	anu :	seum	пен	mei	тасе ат арргохии	lately 17 leet be	low the bulknea	id.			
										Disab seeming CH	T		
0	2	1	N/A	N/A	N/A	N/A	24	NA	SP	Black, organic SIL sand. Coal tar pock			
	-	1	100		30				J	Coal tar-like odor d			
		1	\bigsqcup	igspace	\bigsqcup	Щ					70	l	
		1		'	'		,	1 1		Black, organic SIL1	T trace fine	l	
2	4	1	N/A	A N/A	N/A	N/A	24	NA	OL	sand. Coal tar pock]	
		1	'							Coal tar-like odor d		ı	
		SED-1/2*	\vdash	\vdash	$\vdash \vdash$	\vdash			·				
	.	l '		\Box						Black, organic SILT	r. trace fine		
4	6	l '	N/A	N/A	N/A	N/A	24	NA	OL	sand. Coal tar pock			
		i '								Coal tar-like odor d	etected.		
-		1 '	\vdash	\vdash	\vdash	\vdash		_					
ļ		1						, J		Black, organic SILT	Γ, trace fine		
6	8		N/A	N/A	N/A	N/A	24	NA	OL	sand. Coal tar pock			
		1			1 1		į	ı		Coal tar-like odor de	etected		
	~					—				<u></u>			
.	9.5	ı					S1 . 16						
8	9.5	ı					No soil sampi	le collected due 1	to no recovery.		1		
		i .											

Notes: Soil samples were collected for total organic vapor ("TOV") screening. *Indicates soil sample collected and composited with soil samples from sediment core SED1-0/9.5.

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Sediment SED-3 Page 1 of 1

E	NGII	NEER	$\overline{\mathbf{L}}$	ノリ	G		Start Date	Project #: 500.1.10 Start Date: January 3, 2007 End Date: January 3, 2007						
		& LAND-USE C			_	rs	Start Date.	Date Date. January 3, 2007						
Pro		Slip Area 180 MacArth		Drive	<u></u>		States		- -	Drilling Co.: Drilling Method: Driller: Lightship Rep.:	Vibratory Cor			
City: New Bedford Casing Sampler Type: N/A Size: N/A Hammer: N/A Fall: N/A						Surface Date: WL (ref.): WL (bgs):	State: Massachusetts Surface Water Core Date: N/A WL (ref.): N/A Size: N/A WL (bgs): 5.25 feet SW Elev.: N/A		Surv. Lat. Long. Elev.	N/A N/A				
Start Depth	Finish Depth	Sample ID Blow Count					Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	ption	Well Const		
		Water	r and	sedi	ment	inter	rface at approxir	mately 21 feet be	low the bulkhea	ad.				
0	2		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL sand. Coal tar pool Coal tar-like odor d	kets observed.			
2	4		N/A	N/A	N/A	. N/A	24	NA	OL	Black, organic SIL' sand. Coal tar pool Coal tar-like odor d	kets observed.	1		
4	6	SED-3/4*	N/A	N/A	N/A	. N/A	24	NA	OL	Black, organic SIL sand. Coal tar pock	kets observed.			
6	8		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SILT sand. Coal tar pock Coal tar-like odor d	kets observed.	ı		
8	9,5	N/A N/A N/A N/A					18	Black, organic SILT, trace fin NA OL sand. Coal tar pockets observ Coal tar-like odor detected.			kets observed.			
9.5	11						No soil samp	le collected due t	to no recovery.					

Soil samples were collected for total organic vapor ("TOV") screening. *Indicates soil sample collected and composited with soil samples from sediment core SED4-0/10. Notes:

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Notes:

ויםו	TOT	VEER	T	T	\neg					_ 110,000 #.	300.1.10	-																		
		VEEK				֝ <u>֚</u>	Start Date:	January 3, 20	007	End Date:	January 3, 200	7																		
ENVIRO	MENTAL	LAND-USE C	ONE	OLI	ANI	5						_																		
	lient Name:									Drilling Co.:	TG&B																			
	oject Name:								_	Drilling Method:	Vibratory Co.	ге																		
S	ite Address:	180 MacArti	ıur I	Drive	<u> </u>				_	Driller:																				
	0.4	N D 10	_						_	Lightship Rep.:	B.LaPierre &	N.Abreu																		
		New Bedford					State:	Massachusett	is	-		_																		
	sing	<u>Sa</u>	mpl	_			<u>Surfac</u>	e Water		Core	Surv	ey																		
Type:		Туре		Aluı			Date:		Туре		Lat.																			
Size:		Size		3ft, 3		DD_	WL (ref.):		Size		Long.																			
Hammer:		Hammer	_		I/A		WL (bgs):		Length	: <u>N/A</u>	Elev.	N/A																		
Fall:	N/A	Fall	<u> </u>		I/A		SW Elev.:	N/A																						
Start	Finish	0 1 10	Τ,		_		Recovery	TOVs	Lithology			Well																		
Depth	Depth	Sample ID	"	Blow	Co	unt	(inches)	(ppmv)	(USCS)	Descri	Const																			
										<u></u>																				
		Water	and	sedi	ment	inter	face at approxim	nately 20 feet be	low the bulkher	ad.																				
			Т	Т		Π			···																					
_	3	100			. 10	. 127	•			Black, organic SIL																				
0	, ,	}	N/A	N/A	N/A	N/A	36	NA	OL	sand. Organic-coal	l tar-like odor																			
			ĺ							detected.																				
]																												
3	4		N/A	N/A	NIA	N/A	12	NA I	0,	Black, organic SIL	T, trace fine																			
,	7						ļ													ľ	1,47	1177	l''A	IN/A	12	I NA	OL	sand. Coal tar-like	odor detected.	
							<u> </u>				ĺ																			
									[
4	6	SED-3/4*	N/A	N/A	NI/A	N/A	24	NA	OL	Black, organic SIL																				
7		300-374	1,40	111/	1,40	1,20	24	INA.	OL .	sand. Coal tar pool Coal tar-like odor d																				
			L						Vi.	Coar tai-like odor u	ietected																			
											_																			
6	8		N/A	N/A	NI/A	N/A	24	NA .	OL	Black, organic SIL																				
0			14(7)	1	INIX	13/17	24	INA.	OL	sand. Coal tar pock Coal tar-like odor d																				
										Coar tar-like odor d	iciccieu.																			
					13)					Black, organic SILT	Γ, little fine to																			
8	10		N/A	N/A	N/A	N/A	24	NA	OL/SW	coarse sand. Coal t	ar pockets																			
ŭ				1			27	NA.	OLISW	observed. Coal tar-	like odor																			
				L						detected																				
10	11						No soil samp	le collected due	to no recovery																					

Soil samples were collected for total organic vapor ("TOV") screening. *Indicates soil sample collected and composited with soil samples from sediment core SED3-0/9.5.

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Sediment SED-5

Project #: 500.1.10

Page 1 of 1

	NMENTAL &	LAND-USE C				s	Start Date:	January 3, 20	07	End Date:	January 3, 200	7
	lient Name:								_	Drilling Co.:	TG&B	
	oject Name:								-	Drilling Method: Vibratory Core		
Si	ite Address:	180 MacArth	iur L	rive	<u> </u>				•	Driller:	DI D' G	NT 41
	City	New Bedford	1				State	Massachusett	-	Lightship Rep.:	B.LaPierre &	N.Abreu
				_		_						
	<u>Casing</u> <u>Sampler</u>							e Water	1	Core	Surv	
Type:		4	Type: Aluminum Size: 8ft, 3.0 OD			Date:		Type		Lat.		
Size:		Size		_		ענ	WL (ref.):		Size		Long.	
Hammer: Fall:		Hammer Fall	-		/A //A	\dashv	WL (bgs):		Length:	N/A	Elev.	N/A
raii.	IN/A	raii	_		/A	_	SW Elev.:	N/A				
Start	Finish	6 1 VD	L		_		Recovery	TOVs	Lithology			Well
Depth	Depth	Sample ID	l B	low	COI	ınt	(inches)	(ppmv)	(USCS)	Descri	ption	Const
		Water	r and	sedii	ment	inter	face at approxir	nately 20 feet be	low the bulkher	ad.		
				П		П]			
							24		0.1	Black, organic SIL		
0	3		N/A	N/A	N/A	N/A	36	NA	OL	sand. Organic-coal	tar-like odor	
	}		1							detected.		
				Г	Г		·					
			. 75							Black, organic SIL	Γ. trace fine	
3	4 .		N/A	N/A	N/A	N/A	12	NA	OL	sand. Coal tar-like	·	
						Ш				•	~~	
						П						
4	6	SED 5/6*			N1/A	N7/A	24	N.T.A.	0.1	Black, organic SIL		
4	١٥	SED-5/6*	N/A	N/A	N/A	N/A	24	NA	OL	sand. Coal tar pock		
				l						Coal tar-like odor d	etected.	
										Black, organic SIL		
6	8		N/A	N/A	N/A	N/A	24	NA	OL	sand. Coal tar pocl		
i										Coal tar-like odor d	etected.	
						\Box			**:			
	10			377	, ii.					Black, organic SIL7		
8	10		N/A	N/A	N/A	N/A	24	NA	OL	sand. Coal tar pock		
			1							Coal tar-like odor d	etected.	
		<u> </u>										
10	11						Ma salt accord				Ì	
10	''						ivo son samp	le collected due	to no recovery.		ľ	

Soil samples were collected for total organic vapor ("TOV") screening. *Indicates soil sample collected and composited with soil samples from sediment core SED6-0/6.5. Notes:

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Sediment SED-6 Core ID:

Project #: 500.1.10

Page 1 of 1

Start Date: January 3, 2007

End Date: January 3, 2007

ENVIRONMENTAL & LAND-USE CONSULTANTS Client Name: NSTAR Drilling Co.: TG&B Project Name: Slip Area Vibratory Core Drilling Method: Site Address: 180 MacArthur Drive Driller: Lightship Rep.: B.LaPierre & N.Abreu State: Massachusetts City: New Bedford Casing Surface Water Sampler Survey Type: N/A Type: Aluminum Date: N/A N/A Type: Lat. N/A N/A 8ft, 3.0 OD Size: WL (ref.): N/A Size: N/A Size: Long. N/A Hammer: N/A N/A N/A Hammer: WL (bgs): 6.08 feet Length: N/A Elev. Fall: N/A Fall: N/A SW Elev.: N/A Start Finish Recovery **TOVs** Lithology Well Sample ID **Blow Count** Description Depth Depth (inches) (ppmv) (USCS) Const. Water and sediment interface at approximately 20 feet below the bulkhead. Black, organic SILT, trace fine 0 3 N/A N/A N/A N/A 36 NA OL sand. Organic-coal tar-like odor detected. Black, organic SILT, some fine SED-5/6* 3 4 N/A N/A N/A 12 NA OL sand. Coal tar pockets observed. Coal tar-like odor detected. Black, organic SILT, some fine 4 6.5 N/A N/A N/A N/A 30 OL NA sand. Coal tar pockets observed. Coal tar-like odor detected. Black, medium to coarse SAND, some fine to coarse gravel, little 6.5 7 SED-6A N/A N/A N/A N/A 6 NA swfine sand. Coal tar observed. Coal tar-like odor detected

Notes:

Soil samples were collected for total organic vapor ("TOV") screening. *Indicates soil sample collected and composited with soil samples from sediment core SED5-0/10.

LIGHTSHIP
ENGINEERING

Notes:

ENVIRO	NMENTAL &	LAND-USE C	ONS	ULT	ANT		Start Date	January 3, 20	07	End Date:	January 3, 200	7
				_								
l i	lient Name								_	Drilling Co.:	TG&B	
	oject Name:	180 MacArth	ur F)rive					Drilling Method: Vibratory Con			re
"	ne Address.	100 MacAid		<u> </u>			-		-	Lightship Rep.:	B.LaPierre &	N Abreu
	City:	New Bedford	1				State	Massachusett	S.	_		
	sing	Sa	mpl	er			Surfac	e Water	-	<u>Core</u> Su		
Type:		Туре	_				Date:		Туре		Lat.	N/A
Size:		Size	_	3ft, 3		DD	WL (ref.):		Size	N/A	Long.	N/A
Hammer:		Hammer			/A		WL (bgs):		Length	N/A	Elev.	N/A
Fall:	N/A	Fall	_	<u>_</u>	I/A		SW Elev.:	N/A				
Start	Finish	Cample ID		210	Cal	4	Recovery	TOVs	Lithology			Well
Depth	Depth	Sample ID	"	Blow	Co	unt	(inches)	(ppmv)	(USCS) Descrip		ption	Const.
		Water	and	sedi	meni	inte	rface at approvi	nately 19 feet be	low the bulkher			
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	41.0	Journ	1	· inte	race at approxit	matery 19 feet be	TOW THE DUIKHER	····		
	l									Black, organic S1L	T trace fine	
0	2		N/A	N/A	N/A	N/A	24	NA	OL	sand. Organic-coa		
					l	1				detected.		
		ĺ	\vdash	╁	╁─	H						
			0.000	L	2.0	- 50		l .		Black, organic SIL		
2	4	ļ	N/A	N/A	N/A	N/A	24	NA	OL	sand. Organic-coal	tar-like odor	
			1							detected.		
										21 1 22		
4	5	SED-7/8*	N/A	N/A	N/A	N/A	12	NA	OL	Black, organic SIL' sand. Organic-coal		
		525 775	30.		. 07	334		1424	OL	detected.	tai-like odol	
				⊢	L							
										Black, organic SIL	Γ. some fine	
5	7		N/A	N/A	N/A	N/A	24	NA	OL	sand. Coal tar pocl		
										Coal tar-like odor d	etected.	
			┝╌	24		Н			· .			
_			. 22	20	102	252				Black, organic SILT		
7	8		N/A	N/A	N/A	N/A	12	NA	OL	sand. Coal tar pock		
										Coal tar-like odor d	etected.	
				П						Black, medium to c	oarse SAND,	
		one election								some fine to coarse		
8	8.8	SED-7/8A**	N/A	N/A	N/A	N/A	9.6	NA	SW	fine sand. Coal tar	500	
			l							observed. Coal tar-	like odor	

Soil samples were collected for total organic vapor ("TOV") screening. *Indicates soil sample collected and composited with soil samples from sediment core SED8-0/11. **Indicates soil sample collected and composited with soil samples from sediment core SED8-11/12.



Sediment SED-8

Project #: 500.1.10

ENVIRONMENTAL & LAND-USE CONSULTANTS

Start Date: January 3, 2007

End Date: January 3, 2007

Page 1 of 1

Client Name: NSTAR Drilling Co.: TG&B Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive Driller: Lightship Rep.: B.LaPierre & N.Abreu City: New Bedford State: Massachusetts Casing Sampler Surface Water Survey Type: N/A Type: Aluminum Date: N/A Type: N/A Lat. N/A Size: N/A Size: 8ft, 3.0 OD WL (ref.): N/A N/A Size: Long. N/A Hammer: N/A Hammer: N/A WL (bgs): 6.67 feet Length: N/A Elev. N/A Fall: N/A Fall: N/A SW Elev.: N/A Start Finish Recovery **TOVs** Lithology Well Sample ID **Blow Count** Description Depth Depth (inches) (USCS) (ppmv) Const. Water and sediment interface at approximately 20 feet below the bulkhead. Black, organic SILT, trace fine 0 2 N/A N/A N/A N/A 24 NA OL sand. Organic-coal tar-like odor detected. Black, organic SILT, trace fine 2 4 N/A N/A N/A N/A 24 NA OLsand. Organic-coal tar-like odor detected. Black, organic SILT, some fine 4 6 N/A N/A N/A N/A 24 NA OL sand. Coal tar pockets observed. Coal tar-like odor detected. SED-7/8* Black, organic SILT, some fine 6 8 N/A N/A N/A N/A 24 NA OLsand. Coal tar pockets observed. Coal tar-like odor detected. Black, organic SILT, some fine 8 10 N/A N/A N/A N/A 24 NA OL sand. Coal tar pockets observed. Coal tar-like odor detected. Black, organic SILT, some fine 10 11 N/A N/A N/A N/A 12 NA OL sand. Coal tar pockets observed. Coal tar-like odor detected. Black, fine to coarse SAND, some fine to coarse gravel, little fine 12 SED-7/8A** N/A N/A N/A N/A 11 24 NA SW sand. Coal tar observed. Coal tar-

Notes: Soil samples were collected for total organic vapor ("TOV") screening. *Indicates soil sample collected and composited with soil samples from sediment core SED7-0/8. **Indicates soil sample collected and composited with soil samples from sediment core SED7-8/8.8.

like odor detected.



Page 1 of 1

Project #: 500.10.4

Start Date: December 30, 2008

End Date: December 30, 2008

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Vibratory Core Drilling Method: Site Address: 180 MacArthur Drive R. Reynolds Driller: Lightship Rep.: N. Shipley. D. McGrath City: New Bedford State: Massachusetts Casing Sampler Surface Water Core Survey N/A Type: Type: Aluminum Date: Type: N/A Lat. N/A N/A 20ft, 3" dia. N/A Size Size: WL (ref.): Size: N/A N/A Long. WL (bgs): Hammer: N/A Hammer: N/A N/A Length: N/A N/A Elev. N/A Fall: Fall: N/A SW Elev. N/A Finish Recovery Lithology Start Depth Sample ID **Blow Count** TOVs (ppmv) Well Const Description Depth (inches) (USCS) Black, organic SILT, trace fine 0^ 2 N/A N/A N/A N/A 24 NA OL sand. Organic-coal tar-like odor detected. Black, organic SILT, trace fine 2 4 N/A N/A N/A 24 NA OL sand, trace fine gravel. Organiccoal tar-like odor detected. WC-I* Black, organic SILT, little clay 4 6 N/A N/A N/A N/A 24 NA OLCoal tar pockets observed. Coal tarlike odor detected. Black, organic SILT, little clay. 7 6 N/A N/A N/A N/A 12 OL NA Coal tar pockets observed. Coal tarlike odor detected.

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Page 1 of I

Project #: 500.10.4

ENVIRONMENTAL & LAND-USE CONSULTANTS

Site Address: 180 MacArthur Drive

City: New Bedford

Sampler

Client Name: NSTAR

Project Name: Slip Area

Casing

Start Date: December 30, 2008

State: Massachusetts

Surface Water

End Date: December 30, 2008

TG&B Marine Services Drilling Co.: Drilling Method: Vibratory Core Driller: R. Reynolds Lightship Rep.: N. Shipley. D. McGrath Core Survey N/A NI/A

Type: Size: Hammer: Fall:	N/A N/A	Type Size Hammer Fall	: :	Alur 20ft, N		_	Date: WL (ref.): WL (bgs): SW Elev.:	N/A N/A	Type: Size: Length:	N/A	Lat. Long. Elev.	N/A N/A
Start Depth	Finish Depth	Sample ID	I	3low	Cou	ınt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	ption	Well Const.
0^	2		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL Organic-coal tar-li		
2	4		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL sand, trace fine gra pockets observed. odor detected.	vel. Coal tar	
4	6	WC-2* WC-2 (0-7)** WC-2 (7-8)**	N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL Coal tar pockets of like odor detected.		
6	7		N/A	N/A	N/A	N/A	12	NA	OL	Black, organic SIL Coal tar pockets ob like odor detected.		
7	8		N/A	N/A	N/A	N/A	12	NA	sw	Gray, medium to fi fine gravel. No sta coal tar-like odor.		

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

Indicates start depth from top of sediment.



Start Date: December 30, 2008

Page 1 of 1

Project #: 500.10.4

ENVIRONMENTAL & LAND-USE CONSULTANTS

End Date: December 30, 2008

Client Name: NSTAR

Drilling Co.: TG&B Marine Services

11	roject Name: Site Address:	Slip Area 180 MacArthur Dr	ive	- - -	Drilling Method: Driller: Lightship Rep.:	Vibratory Core R. Reynolds N. Shipley. D.	-						
ľ	City	New Bedford					State	Massachusetts		-			
Ca: Type: Size: Hammer: Fall:	N/A N/A	Sampler Type: Aluminum Size: 20ft, 3" dia. Hammer: N/A Fall: N/A					Surfac Date WL (ref.): WL (bgs): SW Elev.:	N/A N/A	Core Surv Type: N/A Lat. Size: N/A Long Length: N/A Elev.		N/A N/A		
Start Depth	Finish Depth	Sample ID	I	3low	Cou	ınt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descrip	otion	Well Const.	
0^	2		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL Organic-coal tar-lik	•		
2	4		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SILT, trace sand. Organic-coal tar-like odor detected.			
4	6	WC-3* WC-3 (0-7)**	WC-3 (0-7)**	N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SILT sand, trace fine grav pockets observed. (odor detected.	vel. Coal tar	
6	7	WC-3 (7-11)**	N/A	N/A	N/A	N/A	12	NA	OL	Black, organic SILT Coal tar pockets ob- like odor detected.		al	
7	9	2	N/A	N/A	N/A	N/A	24	NA	sw	Gray, medium to fir fine gravel. No stai coal tar-like odor.			
9	11		N/A	N/A	N/A	N/A	24	NA	sw	Gray, medium to fin fine gravel. No stai coal tar-like odor.			

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Start Date: December 30, 2008

End Date: December 30, 2008

TG&B Marine Services Client Name: NSTAR Drilling Co.: Project Name: Slip Area Drilling Method Vibratory Core Site Address: 180 MacArthur Drive Driller: R. Reynolds N. Shipley, D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Core Survey Type: N/A Aluminum N/A Type: Date: Type: N/A Lat. Size N/A Size: 20ft, 3" dia. WL (ref.): N/A Size: N/A Long. N/A Hammer N/A WL (bgs) N/A Hammer: N/A Length: N/A N/A Elev. N/A Fall: Fall: N/A SW Elev.: N/A Finish Recovery Lithology TOVs (ppmv) Start Depth Sample ID **Blow Count** Well Const. Description Depth (inches) (USCS) Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace sand 2 4 N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace sand 4 6 N/A N/A N/A N/A 24 OL Coal tar pockets observed. Coal tar-NA like odor detected. Black, organic SILT, trace sand. WC-4* 6 7 N/A N/A N/A N/A 12 OLNA Coal tar pockets observed. Coal tar-WC-4 (0-7)** like odor detected. WC-4 (7-11)** Gray, medium to fine SAND, trace 7 9 fine gravel. No staining with some N/A N/A N/A N/A 24 SW NA coal tar-like odor. Gray, medium to fine SAND, trace 9 11 N/A N/A N/A 24 SW N/A NA fine gravel. No staining with some coal tar-like odor. 11 12,7 N/A N/A N/A N/A NA NA NA No Recovery

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.

LIGHTSHIP **ENGINEERING** ENVIRONMENTAL & LAND-USE CONSULTANTS

Sediment Core ID: WC-5

Page 1 of 1

Project #: 500.10.4

Start Date: December 30, 2008

End Date: December 30, 2008

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive Driller: R. Reynolds Lightship Rep N. Shipley. D. McGrath City: New Bedford State: Massachusetts Casing Surface Water Sampler Соте Survey Type: Type: Aluminum Date: N/A Type N/A Lat. N/A Size N/A Size: 20ft, 3" dia. WL (ref.): N/A N/A Long. N/A Size Hammer N/A Hammer: N/A WL (bgs): N/A Length N/A Elev. N/A Fall N/A Fall N/A SW Elev. N/A Recovery Lithology Start Depth Sample ID **Blow Count** TOVs (ppmv) Description Well Const Depth (inches) (USCS) Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A 24 OL NA Organic-coal tar-like odor detected. Black, organic SILT, trace sand. 2 4 N/A N/A N/A N/A 24 OL NA Organic-coal tar-like odor detected. Black, organic SILT, some medium 4 6 N/A N/A N/A N/A 24 NA OL sand. Coal tar pockets observed. Coal tar-like odor detected Black, organic SILT, some medium WC-5* 6 8 N/A N/A N/A N/A 24 NA OL sand. Coal tar pockets observed. WC-5 (0-8)** Coal tar-like odor detected. WC-5 (8-11)** Gray, medium to fine SAND, trace 8 10 fine gravel. No staining with some N/A N/A N/A N/A 24 NA swcoal tar-like odor. Gray, medium SAND, some coarse 10 11 N/A N/A N/A N/A 12 NA sw gravel. No staining with some coal tar-like odor. 11 12.2 N/A N/A N/A N/A NA NA NA No Recovery

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Sediment Core WC-6

Project #: 500.10.4

Gray, medium SAND, trace coarse

sand. No staining with some coal

tar-like odor

No Recovery

sw

NA

Start Date: December 30, 2008

End Date: December 30, 2008

Page 1 of 1

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive Driller: R. Reynolds Lightship Rep.: N. Shipley. D. McGrath City: New Bedford State: Massachusetts Casing Sampler Surface Water Core Survey Type: N/A Type: Aluminum Date: N/A Type: N/A Lat. Size: N/A 20ft, 3" dia. WL (ref.): Size: N/A Size: N/A N/A Long. Hammer N/A Hammer: Elev. N/A WL (bgs): N/A Length: N/A N/A Fall N/A Fall: N/A SW Elev.: N/A Finish Recovery Lithology Start Depth Sample ID Blow Count TOVs (ppmv) Well Const. Description Depth (inches) (USCS) Black, organic SILT, trace sand. 0^ N/A N/A N/A N/A 24 OL NA Organic-coal tar-like odor detected. Black, organic SILT, trace sand. 2 4 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace sand, trace gravel. Coal tar pockets 4 6 N/A N/A N/A N/A 24 NA OL observed. Coal tar-like odor detected. Black, organic SILT, trace sand. WC-6* 6 8 N/A N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tar-WC-6 (0-8)** like odor detected. WC-6 (8-13)** Gray, medium SAND, trace coarse 8 10 N/A N/A N/A 24 NA SW sand. No staining with some coal tar-like odor.

Notes

10

12.2

12.2

13.2

N/A N/A N/A N/A

N/A N/A N/A N/A

12.4

NA

NA

NA

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500 I 0.4

with some coal tar-like odor.

Start Date: December 30, 2008 ENVIRONMENTAL & LAND-USE CONSULTANTS

End Date: December 30, 2008

Client Name: NSTAR TG&B Marine Services Drilling Co.: Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: Lightship Rep.: N. Shipley. D. McGrath City: New Bedford State: Massachusetts Casing Surface Water <u>Sampler</u> Core Survey Type: N/A Type: Aluminum Date: N/A Type: N/A Lat Size: N/A Size: 20ft, 3" dia. WL (ref.): N/A Size: N/A Long N/A Hammer: N/A N/A WL (bgs): Hammer: N/A Length: N/A N/A Elev. Fall: N/A Fall: SW Elev. N/A N/A Finish Recovery Lithology TOVs (ppmv) Start Depth Sample ID Blow Count Description Well Const. Depth (inches) (USCS) Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace sand 2 4 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace sand. WC-7* 5 4 N/A N/A N/A N/A 12 NA OL Coal tar pockets observed. Coal tar-WC-7 (0-5)** like odor detected. WC-7 (5-8)** Gray, fine SAND, some fine 5 6 N/A N/A N/A 12 SW NA gravel. No staining with some coal tar-like odor. Gray, fine to medium SAND, some 8 6 N/A N/A N/A N/A 24 sw silt and medium gravel. No staining NA

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis

[^] Indicates start depth from top of sediment.

LIGHTSHIP ENGINEERING

Sediment Core WC-8

ID:

Page 1 of 1

Project #: 500.10.4

Start Date: December 30, 2008 **ENVIRONMENTAL & LAND-USE CONSULTANTS**

End Date: December 30, 2008

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: Lightship Rep. N. Shipley. D. McGrath City: New Bedford State: Massachusetts Casing Sampler Surface Water Core <u>Survey</u> Type: N/A Aluminum Type: Date: N/A Type: N/A N/A Lat. N/A Size: N/A 20ft, 3" dia. WL (ref.): Size: N/A N/A Size: Long. Hammer N/A Hammer: N/A WL (bgs): N/A N/A Elev. Length: N/A Fall: N/A SW Elev. Fall N/A N/A Finish Recovery Lithology TOVs (ppmv) Start Depth Sample ID **Blow Count** Well Const. Description Depth (inches) (USCS) Black, organic SILT, trace sand 0^ 2 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace sand 2 N/A N/A N/A N/A 4 24 NA OL Organic-coal tar-like odor detected Black, organic SILT, trace sand. 4 6 N/A N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tarlike odor detected. Black, organic SILT, trace sand. 6 8 N/A N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tar WC-8* like odor detected. WC-8 (0-8)** WC-8 (8-15)** Gray, fine SAND, trace fine gravel. 8 10 N/A N/A N/A N/A 24 NA sw No staining with some coal tar-like Gray, medium SAND, some silt 10 12 N/A N/A N/A N/A 24 SW NA and gravel. No staining with some coal tar-like odor. Gray, fine SAND, some silt. No 12 14 N/A N/A N/A N/A 24 sw NA staining with some coal tar-like Gray, medium SAND and gravel 14 15 N/A N/A N/A sw 12 NA Coal tar observed. Coal tar-like odor detected.

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.

LIGHTSHIP ENGINEERING ENVIRONMENTAL & LAND-USE CONSULTANTS

Sediment Core WC-9

ID:

Page 1 of 1

Project #: 500.10.4

Start Date: December 30, 2008

End Date: December 30, 2008

TG&B Marine Services Client Name: NSTAR Drilling Co.: Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive Driller: R. Reynolds Lightship Rep.: N. Shipley D. McGrath City: New Bedford State: Massachusetts Casing Surface Water Sampler Соге Survey Type: N/A Type: Aluminum N/A Date: Type: N/A Lat. 20ft, 3" dia. Size N/A Size: WL (ref.): N/A Size: N/A Long N/A Hammer N/A N/A WL (bgs): Hammer: N/A Length: N/A N/A Elev. Fall: N/A Fall N/A SW Elev. N/A Finish Recovery Lithology Start Depth TOVs (ppmv) Sample ID **Blow Count** Description Well Const. Depth (inches) (USCS) Black, organic SILT, trace sand. 0≙ 2 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace sand 2 N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Gray, fine SAND, trace fine gravel. 4 6 N/A N/A N/A N/A 24 NA sw Coal tar pockets observed. Coal tarlike odor detected. WC-9* Black, organic SILT, trace sand. WC-9 (0-7)** 7 6 N/A N/A N/A N/A 12 NA OL Coal tar pockets observed. Coal tar-WC-9 (7-12)** like odor detected. Gray, fine SAND, some fine 7 8 N/A N/A N/A N/A 12 NA swgravel. No staining with some coal tar-like odor. Gray, medium SAND, trace 8 10 N/A N/A N/A N/A 24 NA SP medium gravel. No staining with some coal tar-like odor. Black, medium to coarse SAND. 10 12 N/A N/A N/A N/A 24 NA SW Coal tar observed. Coal tar-like odor detected.

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



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Project #: 500.10.4

Start Date: January 2, 2009

End Date: January 2, 2009

Client Name: NSTAR Project Name: Slip Area

Drilling Co.: TG&B Marine Services

Vibratory Core

	roject Name	Slip Area 180 MacArthur Dri							_	Drilling Method	Vibratory Core	:
·	one Address.	180 MacArthur Di	ve						-	Driller: Lightship Rep.:	R. Reynolds N. Shipley. D.	McGrath
	City	New Bedford					State	Massachusetts	-	Lightship Kep	N. Shipicy. D.	MeGrani
Casing Sampler Type: N/A Type: Aluminum Size: N/A Size: 20ft, 3" dia. Hammer: N/A Hammer: N/A Fall: N/A Fall: N/A						Surfac Date: WL (ref.): WL (bgs): SW Elev.:	N/A N/A	Size: N/A Long N			N/A N/A	
Start Depth	Finish Depth-	Sample ID	F	Blow	/ Coi	ınt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descrip	otion	Well Const.
0^	2		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL sand. Organic-coal detected.		
2	4	WC-10*	N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL' sand, trace fine gra coal tar-like odor de	vel. Organic-	
4	6	:	N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL Coal tar pockets ob like odor detected.		
6	7.5		N/A	N/A	N/A	N/A	18	NA	OL	Black, organic SILT Coal tar pockets ob- like odor detected.		

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.

LIGHTSHIP ENGINEERING ENVIRONMENTAL & LAND-USE CONSULTANTS

Sediment Core ID: WC-11

Page 1 of 1

Project #: 500.10.4

Start Date: January 2, 2009

End Date: January 2, 2009

TG&B Marine Services Client Name: NSTAR Drilling Co.: Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive Driller: R. Reynolds Lightship Rep.: N. Shipley. D. McGrath City: New Bedford State: Massachusetts Casing Surface Water <u>Sampler</u> Core Survey Type: N/A Type: Aluminum N/A Date: N/A Type: Lat N/A Size N/A Size: 20ft, 3" dia. WL (ref.) N/A Size: N/A Long. N/A Hammer: N/A N/A WL (bgs) Hammer N/A Elev. Length: N/A N/A Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery Lithology Start Depth TOVs (ppmv) Sample ID **Blow Count** Well Const. Description Depth (inches) (USCS) Black, organic SILT, trace silt 0^ 2 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace silt. 2 4 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. WC-11* Black, organic SILT, trace silt. 4 6 N/A N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tarlike odor detected. Black, organic SILT, trace silt. 6 6.6 N/A N/A N/A N/A 7 OL NA Coal tar pockets observed. Coal tarlike odor detected.

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



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Project #: 500.10.4

Start Date: January 2, 2009

End Date: January 2, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: Lightship Rep.: N. Shipley. D. McGrath City: New Bedford State: Massachusetts Casing Surface Water <u>Sampler</u> Core Survey Type: Type: Aluminum Date: N/A N/A Type: Lat. N/A N/A 20ft, 3" dia. Size Size: WL (ref.): N/A Size: N/A Long N/A Hammer: N/A Hammer: N/A WL (bgs): N/A Length: N/A Elev. N/A Fall: N/A Fall: N/A SW Elev. N/A Recovery Lithology **Blow Count** Start Depth Sample ID Well Const TOVs (ppmv) Description Depth (inches) (USCS) Black, organic SILT, trace silt. 0^ 2 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace silt 2 4 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace fine sand, trace fine gravel. Coal tar 4 6 N/A N/A N/A N/A 24 NA OL WC-12* pockets observed. Coal tar-like WC-12 (0-8)** odor detected. WC-12 (8-10)** Black, organic SILT, trace silt. 6 8 N/A N/A N/A N/A 24 OL NA Coal tar pockets observed. Coal tarlike odor detected. Gray, medium SAND, some 8 9.7 medium gravel. No staining with N/A N/A N/A N/A 20.4 NA SW some coal tar-like odor. 9.7 10 N/A N/A N/A NA NA NA No Recovery

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis

[^] Indicates start depth from top of sediment.



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Project #: 500.10.4

Start Date: January 2, 2009

End Date: January 2, 2009

Client Name: NSTAR

Drilling Co.: TG&B Marine Services

p	roject Name	Slin Area							-	Drilling Co	Vibratory Core		
		180 MacArthur Dri	ive						-	Drilling Method Driller	Vibratory Core R. Reynolds		
1	one Address,	100 MacAithui Di	IVC					··	•	Lightship Rep.:		MaCaath	
	City	New Bedford					State	Massachusetts		Lightship Rep.	N. Silipley, D.	McGrath	
	sing	Sam					Surfac	e Water		Core	Surv	rey	
Type		Туре		Alur			Date	N/A	Туре	:N/A	Lat,	N/A	
Size	N/A	Size	: <u> </u>	20ft,	3" d	ia.	WL (ref.)	N/A	Size	: N/A	Long.	g N/A	
Hammer:		Hammer	_		I/A		WL (bgs):		Length	:N/A	Elev.	N/A	
Fail:	N/A	Fall	<u> </u>	N/A			SW Elev	N/A					
Start Depth	Finish Depth	Sample ID	Sample ID Blow Count			Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	Well Const.			
0^	2		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL Organic-coal tar-lil	• 11 // 2007		
2	4	WC-13* WC-13 (0-10)** WC-13 (10-11)**	N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL Organic-coal tar-lil			
4	6		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL sand, trace fine gra pockets observed odor detected.	vel. Coal tar		
6	8		` '	N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL' Coal tar pockets ob like odor detected.		
8	10		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL Coal tar pockets ob like odor detected.			
10	11		N/A	N/A	N/A	N/A	12	NA	SP	Gray, medium SAN medium gravel. No some coal tar-like o	staining with		

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.

LIGHTSHIP **ENGINEERING** ENVIRONMENTAL & LAND-USE CONSULTANTS

Sediment Core WC-14

ID:

Page 1 of 1

Project #: 500.10.4

Start Date: January 2, 2009

End Date: January 2, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Vibratory Core Drilling Method: R. Reynolds Site Address: 180 MacArthur Drive Driller: Lightship Rep. N. Shipley. D. McGrath City: New Bedford State: Massachusetts Casing Surface Water Sampler Core Survey Type: Type: Aluminum Date: N/A Type: N/A Lat. N/A N/A Size Size: 20ft, 3" dia. WL (ref.): N/A N/A Long. N/A Size: Hammer N/A Hammer N/A WL (bgs): N/A Length: N/A Elev. N/A Fall: N/A Fall N/A SW Elev. N/A Recovery Lithology Start Depth Sample ID **Blow Count** TOVs (ppmv) Description Well Const. Depth (inches) (USCS) Black, organic SILT, trace sand 0^ 2 N/A N/A N/A N/A 24 OL NA Organic-coal tar-like odor detected. Black, organic SILT, trace sand 2 4 N/A N/A N/A N/A 24 OL NA Organic-coal tar-like odor detected. Black, organic SILT, trace fine sand, trace fine gravel. Coal tar 4 N/A N/A N/A N/A 6 24 NA OL pockets observed. Coal tar-like odor detected. Black, organic SILT, trace sand. 6 8 N/A N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tarlike odor detected. WC-14* WC-14 (0-11)** Black, organic SILT, trace sand. WC-14 (11-14)** 8 10 N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tarlike odor detected. Black, organic SILT, trace sand. 10 11 N/A N/A N/A N/A 12 NA OL Coal tar pockets observed. Coal tarlike odor detected. Gray, coarse SAND and gravel 11 13 N/A N/A N/A N/A 24 NA swNo staining with some coal tar-like odor. Gray, fine SAND, trace coarse 13 14 N/A N/A N/A N/A 12 NA SP gravel. No staining with some coal tar-like odor.

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Start Date: January 2, 2009

End Date: January 2, 2009

	31:	NICEAR				-						
	Client Name								•	Drilling Co.		
	roject Name: Site Address	180 MacArthur Dr	ive				 _		-	Drilling Method:	Vibratory Core	;
•	one Address	100 MacAithar Di	ive	-					•	Driller: Lightship Rep.:		McGrath
	City	New Bedford					State	Massachusetts	•	Digitishing Rep	THE IMPICY. D.	Mooradi
Cas	sing	Sam	nler	-			Surfac	e Water	Ī	Core	Surv	/AV
Type:	_	Туре		Alur	ninu	m	Date		Туре	15.751	Lat.	500
Size:	N/A	Size	:	20ft,	3" d	ia.	WL (ref.)		Size		Long.	
Hammer:	N/A	Hammer	_		I/A		WL (bgs):		Length	: N/A	Elev.	$\overline{}$
Fall:	N/A	Fall	[:] —	N	I/A		SW Elev.:	N/A				
Start Depth	Finish Depth	Sample ID	I	3low	Cou	ınt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descrip	otion	Well Con
0^	2		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL' Organic-coal tar-lik	•	
2	4		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL sand, trace fine gra coal tar-like odor de	vel. Organic-	
4	6		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SIL sand, trace fine grapockets observed. odor detected.		
6	8		N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SILT Coal tar pockets ob- like odor detected.		
8	10	WC-15 (0-10)** WC-15 (10-14)**	N/A	N/A	N/A	N/A	24	NA	OL	Black, organic SILT, trace sand. Coal tar pockets observed. Coal tar- like odor detected. Gray, medium to fine SAND, trace fine gravel. Coal tar pockets observed. Coal tar-like odor detected.		
10	11		N/A	N/A	N/A	N/A	12	NA	sw			
11	13		N/A	N/A	N/A	N/A	24	NA	SP	Gray, medium SAND, trace coarse gravel. No staining with some coal tar-like odor.		
13	14		N/A	N/A	N/A	N/A	12	NA	SP	Gray, fine SAND, trace medium sand. No staining with some coal tar-like odor.		

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis

[^] Indicates start depth from top of sediment.



Sediment Core WC-16

ID:

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Project #: 500.10.4

tar-like odor.

Start Date: January 2, 2009

End Date: January 2, 2009

Client Name: NSTAR Drilling Co. TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: Lightship Rep.: N. Shipley. D. McGrath City: New Bedford State: Massachusetts Casing <u>Sampler</u> Surface Water Core Survey Type: N/A Aluminum Type: Date: Type: N/A Lat. N/A Size N/A Size: 20ft, 3" dia. WL (ref.): N/A Size: N/A Long. N/A N/A Hammer: Hammer: N/A WL (bgs): N/A N/A Length: Elev. N/A Fall: N/A Fall: N/A SW Elev. N/A Finish Recovery Lithology Start Depth Sample ID **Blow Count** TOVs (ppmv) Description Well Const. Depth (inches) (USCS) Black, organic SILT, trace sand 0^ 2 N/A N/A N/A N/A 24 OL NA Organic-coal tar-like odor detected. Black, organic SILT, trace sand. 2 4 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace fine sand, trace fine gravel. Coal tar 4 6 N/A N/A N/A N/A 24 NA OL pockets observed. Coal tar-like odor detected. WC-16* Black, organic SILT, trace sand WC-16 (0-12)** 6 8 N/A N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tar-WC-16 (12-13)** like odor detected. Black, organic SILT, trace sand 8 10 N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tarlike odor detected. Black, organic SILT, trace sand. 10 12 N/A N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tarlike odor detected. Gray, fine SAND, some medium 12 13 N/A N/A N/A 12 SP gravel. No staining with some coal NA

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Sediment Core WC-17

ID:

Page 1 of 1

Project #: 500.10.4

Start Date: January 2, 2009

End Date: January 2, 2009

TG&B Marine Services Client Name: NSTAR Drilling Co.: Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: N. Shipley. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Core Survey Type: N/A Type: Aluminum Date: N/A Type: N/A Lat. N/A Size N/A Size: 20ft, 3" dia. WL (ref.): N/A N/A N/A Size: Long. Hammer: N/A Hammer: N/A WL (bgs): N/A Length: N/A N/A Elev. Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery Lithology TOVs (ppmv) Start Depth Sample ID **Blow Count** Description Well Const. Depth (inches) (USCS) Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. Black, organic SILT, trace sand. 2 4 N/A N/A N/A N/A OL 24 NA Organic-coal tar-like odor detected Black, organic SILT, trace fine sand, trace fine gravel. Coal tar 4 6 N/A N/A N/A N/A 24 NA OL pockets observed. Coal tar-like odor detected. Black, organic SILT, trace sand. 6 8 N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tarlike odor detected. Black, organic SILT, trace sand. 8 10 N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tar-WC-17* like odor detected. WC-17 (0-10)** WC-17 (10-15)** Gray, medium to fine SAND, trace medium gravel. Coal tar pockets 10 12 N/A N/A N/A N/A 24 SW NA observed. Coal tar-like odor detected. Gray, medium SAND and gravel. 12 13 N/A N/A N/A N/A 12 NA SP No staining with some coal tar-like odor. Gray, fine SAND, trace medium 13 13.8 9.6 SP N/A N/A N/A N/A NA gravel. Coal tar observed. Coal tarlike odor detected. 13.8 15 N/A N/A N/A NA NA NA No Recovery

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

Indicates start depth from top of sediment.



Sediment Core WC-18

ID:

Page 1 of 1

Project #: 500.10.4

Start Date: January 2, 2009

End Date: January 2, 2009

Client Name: NSTAR TG&B Marine Services Drilling Co. Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive Driller: R. Reynolds Lightship Rep.: N. Shipley. D. McGrath City: New Bedford State: Massachusetts Casing <u>Sampler</u> Surface Water Core Survey Type: N/A Type: Aluminum Date: N/A Type: N/A Lat. N/A Size N/A Size: 20ft, 3" dia. WL (ref.): N/A N/A Long Size N/A N/A Hammer: Hammer: N/A WL (bgs): N/A Length: N/A N/A Elev. Fall: N/A Fall N/A SW Elev. N/A Finish Recovery Lithology Start Depth TOVs (ppmv) Sample ID **Blow Count** Description Well Const. Depth (inches) (USCS) Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected Black, organic SILT, trace sand. 2 4 N/A N/A N/A N/A 24 NA OL Organic-coal tar-like odor detected. WC-18* Black, organic SILT, trace fine WC-18 (0-8)** sand, trace fine gravel. Coal tar 4 6 N/A N/A N/A N/A 24 NA OL WC-18 (8-9)** pockets observed. Coal tar-like odor detected. Black, organic SILT, trace sand 6 8 N/A N/A N/A 24 NA OL Coal tar pockets observed. Coal tarlike odor detected. Gray, medium SAND, trace fine 8 9 N/A N/A N/A N/A 12 NA SW gravel. Coal tar observed. Coal tarlike odor detected.

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

^{**}Indicates composite sediment sample from depth range indicated submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.

37 LINDEN STREET

P.O. BOX 67

MEDFORD, MA 02155-0001

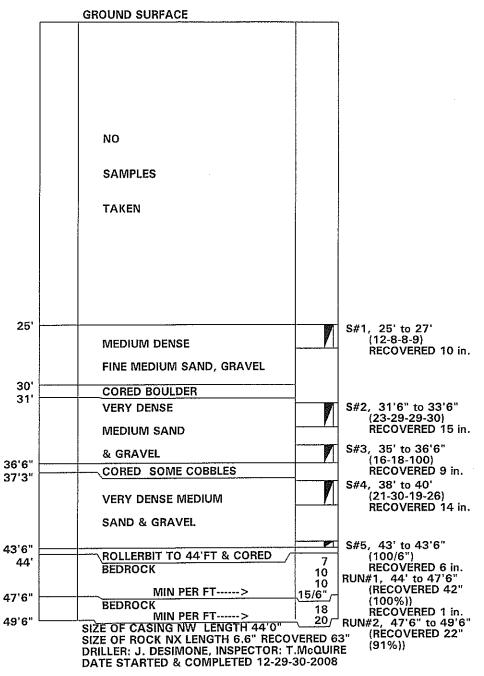
Telephone (781) 391-4500

To: CHARTER ENVIRONMENTAL 72 JONSPIN RD, WILMINTON, MA Date: 1-13-2009 Job No.: 2008-196

Location: 180 MAC ARTHUR DRIVE, NEW BEDFORD, MA

Scale: 1 in. = 8 ft.

BORING C-1



37 LINDEN STREET

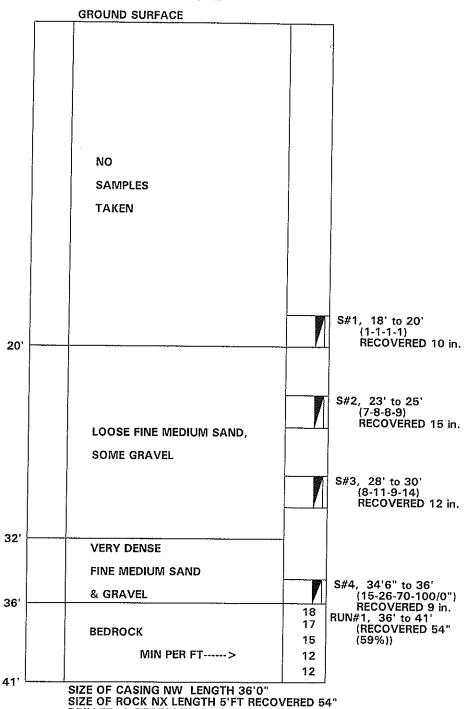
P.O. BOX 67

MEDFORD, MA 02155-0001

Telephone (781) 391-4500

To: CHARTER ENVIRONMENTAL 72 JONSPIN RD, WILMINTON, MA Date: 1-13-2009 Job No.: 2008-196 Location: 180 MAC ARTHUR DRIVE, NEW BEDFORD, MA Scale: 1 in. = 6 ft.

BORING C-2



SIZE OF ROCK NX LENGTH 5'FT RECOVERED 54" DRILLER: J. DESIMONE, INSPECTOR: T.MAQUIRE DATE STARTED & COMPLETED 12-29-31-2008-1-2-2009

37 LINDEN STREET

P.O. BOX 67

MEDFORD, MA 02155-0001

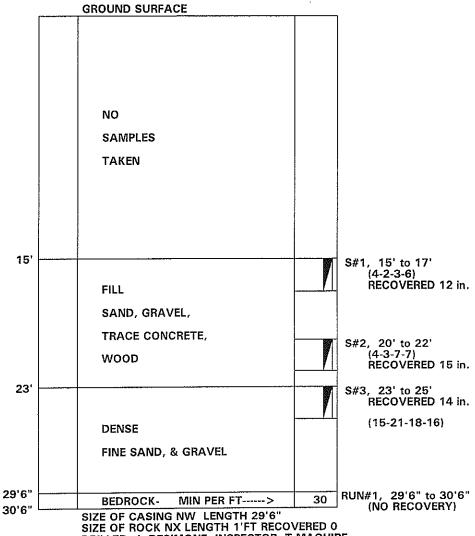
Telephone (781) 391-4500

To: CHARTER ENVIRONMENTAL 72 JONSPIN RD, WILMINTON, MA Date: 1-13-2009 Job No.: 2008-196

Location: 180 MAC ARTHUR DRIVE, NEW BEDFORD, MA

_____ Scale: 1 in. = 6 ft.

BORING C-3



DRILLER: J. DESIMONE, INSPECTOR: T.MAQUIRE DATE STARTED & COMPLETED 1-5-2009

37 LINDEN STREET

P.O. BOX 67

MEDFORD, MA 02155-0001

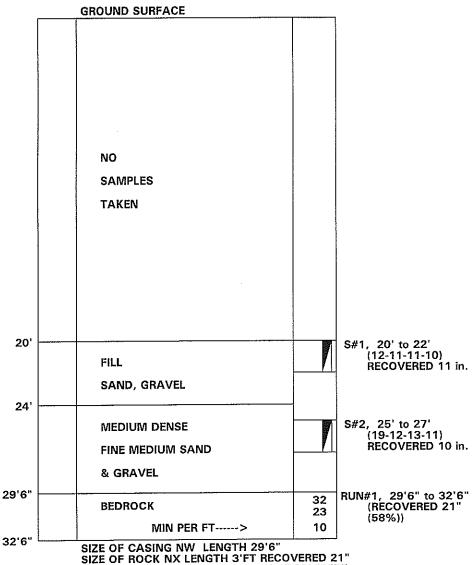
Telephone (781) 391-4500

Date: 1-13-2009 Job No.: 2008-196 To: CHARTER ENVIRONMENTAL 72 JONSPIN RD, WILMINTON, MA

Location: 180 MAC ARTHUR DRIVE, NEW BEDFORD, MA

____ Scale: 1 in. = <u>6</u>____ ft.

BORING C-4



SIZE OF CASING NW LENGTH 29'6" SIZE OF ROCK NX LENGTH 3'FT RECOVERED 21" DRILLER: J. DESIMONE, INSPECTOR: T.MAQUIRE DATE STARTED & COMPLETED 1-6-2009

37 LINDEN STREET

P.O. BOX 67

MEDFORD, MA 02155-0001

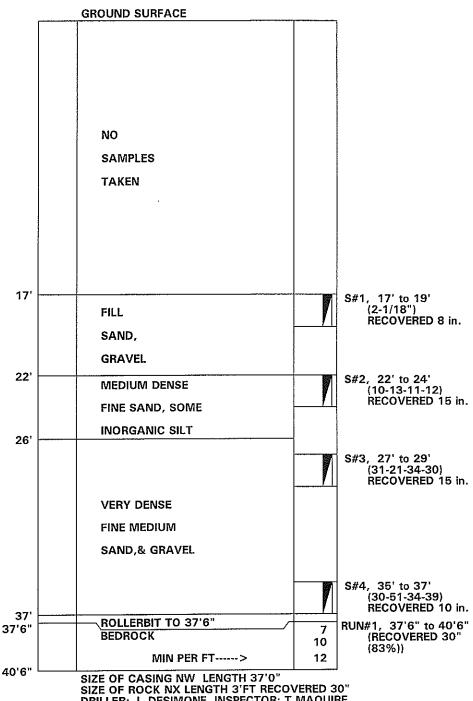
Telephone (781) 391-4500

To: CHARTER ENVIRONMENTAL 72 JONSPIN RD, WILMINTON, MA Date: 1-13-2009 Job No.: 2008-196

Location: 180 MAC ARTHUR DRIVE, NEW BEDFORD, MA

Scale: 1 in. = 6 ft.

BORING C-5



DRILLER: J. DESIMONE, INSPECTOR: T.MAQUIRE DATE STARTED & COMPLETED 1-7-2009

37 LINDEN STREET

P.O. BOX 67

MEDFORD, MA 02155-0001

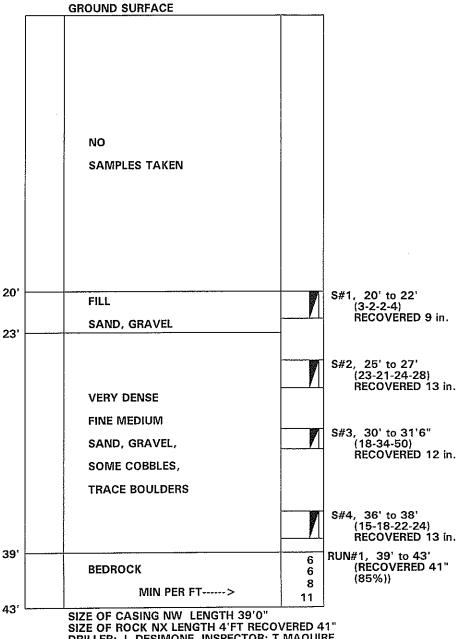
Telephone (781) 391-4500

To: CHARTER ENVIRONMENTAL 72 JONSPIN RD, WILMINTON, MA Date: 1-13-2009 Job No.: 2008-196

Location: 180 MAC ARTHUR DRIVE, NEW BEDFORD, MA

Scale: 1 in. = 7 ft.

BORING C-6



DRILLER: J. DESIMONE, INSPECTOR: T.MAQUIRE DATE STARTED & COMPLETED 1-8-9-2009

NOTE: WATER TABLE TIDAL

NOTE: CORED BOULDER FROM 33'FT TO 33'9"

37 LINDEN STREET

P.O. BOX 67

MEDFORD, MA 02155-0001

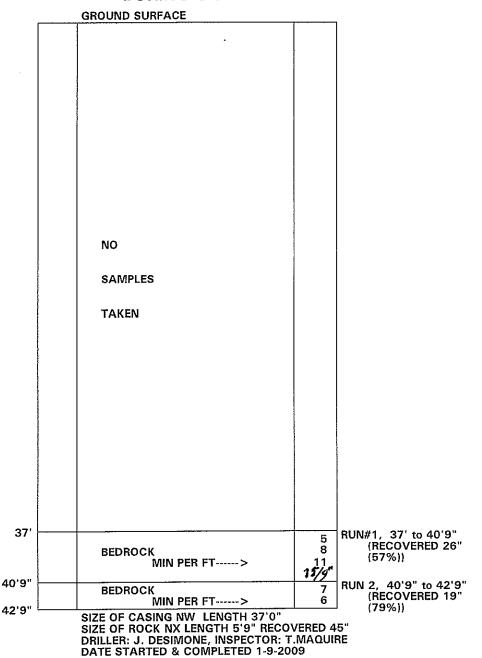
Telephone (781) 391-4500

To: CHARTER ENVIRONMENTAL 72 JONSPIN RD, WILMINTON, MA Date: 1-13-2009 Job No.: 2008-196

Location: 180 MAC ARTHUR DRIVE, NEW BEDFORD, MA

____ Scale: 1 in. = 7 ____ ft.

BORING C-7





Site Address: 180 MacArthur Drive

Client Name: NSTAR

Project Name: Slip Area

Sediment Core ID: WC-19

Page 1 of 1

Project #: 500.10.4

Start Date: April 23, 2009

End Date: April 23, 2009

Drilling Co.: Drilling Method:

TG&B Marine Services Vibratory Core

R. Reynolds Driller:

Lightship Rep.:

T. Remmers. D. McGrath

City:	New Bedford	State:	Massachusetts

									r			
Cas	sing	Sam	<u>pler</u>				Surface	e Water		Core	Surv	<u>'ey</u>
Type:	N/A	Туре	: A	lumi	num		Date:	N/A	Type:	N/A	Lat.	N/A
Size:	N/A	Size	: 20	ft, 3'	dia.		WL (ref.):	N/A	Size	N/A	Long.	N/A
Hammer:	N/A	Hammer	:	N/A	١		WL (bgs):	N/A	Length	N/A	Elev.	N/A
Fall:	N/A	Fall	:	N/A	1		SW Elev.:	N/A				
Start Depth	Finish Depth	Sample ID	Bl	ow C	ount	t	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	iption	Well Const
0^	2	N WC-19*	N/A 1	N/A 1	J/A N	N/A	12	NA	SM	Black, organic find SAND and SILT. like odor detected	Organic-coal tar-	
2	4		N/A	N/A 1	N/A N	N/A	12	NA	SM	Black, organic find SAND and SILT. like odor detected	Organic-coal tar-	
4	6		N/A 1	N/A 1	J/A N	N/A	12	NA	SM	Black, organic find SAND and SILT. like odor detected	Organic-coal tar-	
6	8		N/A	N/A 1	J/A N	N/A	12	NA	SM	Black, organic find SAND and SILT. like odor detected	Organic-coal tar-	
8	10	N/A N/A N/A N/A				N/A	12	NA	SM	Black, organic find SAND and SILT. like odor detected	Organic-coal tar-	

*Indicates composite sediment sample from entire core submitted for laboratory analysis for PCBs. Notes:

[^] Indicates start depth from top of sediment.



Casing

Sediment Core ID: WC-20

Page 1 of 1

Survey

Project #: 500.10.4

Start Date: April 23, 2009

Surface Water

End Date: April 23, 2009

Core

Client Name: NSTAR
Project Name: Slip Area
Site Address: 180 MacArthur Drive

Sampler

Drilling Co.:
Drilling Method:
Driller:
TG&B Marine Services
Vibratory Core
R. Reynolds

Lightship Rep.: T. Remmers. D. McGrath

City: New Bedford State: Massachusetts

Type: Size: Hammer: Fall:	N/A N/A N/A N/A	Sample ID Blow Coun				Date: WL (ref.): WL (bgs): SW Elev.:	N/A N/A	Type: Size: Length:	N/A	Lat. Long. Elev.	N/A N/A	
Start Depth	Finish Depth	Sample ID	F	Blow	Cou	nt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	ption	Well Const.
0^	2		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic fine trace fine gravel.	Organic-coal tar-	
2	4		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic fine trace fine gravel. Ilke odor detected.	Organic-coal tar-	
4	6	WC-20*	N/A	N/A	N/A	N/A	24	NA	SM	Black, organic fine trace fine gravel. I like odor detected.	Organic-coal tar-	
6	8		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic fine trace fine gravel. Ilke odor detected.	Organic-coal tar-	
8	9		N/A	N/A	N/A	N/A	12	NA	SM	Black, organic fine trace fine gravel.	Organic-coal tar-	

Notes: *Indicates composite sediment sample from entire core submitted for laboratory analysis for PCBs.

[^] Indicates start depth from top of sediment.



Site Address: 180 MacArthur Drive

Client Name: NSTAR

Project Name: Slip Area

Sediment Core ID: WC-21

Page 1 of 1

Project #: 500.10.4

Start Date: April 23, 2009

End Date: April 23, 2009

Drilling Co.: TG&B Marine Services
Drilling Method: Vibratory Core

Driller: R. Reynolds
Lightship Rep.: T. Remmers. D. McGrath

City: New Bedford State: Massachusetts

Cas Type: Size: Hammer: Fall:	N/A N/A	<u>Sam</u> Type Size Hammer Fall	A 20	ft, 3	ninur 3" di /A /A		Surface Date: WL (ref.): WL (bgs): SW Elev.:	N/A N/A	Type: Size: Length:	N/A	<u>Surv</u> Lat. Long. Elev.	N/A N/A
Start Depth	Finish Depth	Sample ID	Ble	ow	Cou	nt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	ption	Well Const.
0^	2		N/A N	N/A	N/A	N/A	24	NA	SM	Black, organic find silt, trace gravel. (like odor detected.	Organic-coal tar-	
2	4		N/A 1	N/A	N/A	N/A	24	NA	SM	Black, organic find silt, trace gravel. (like odor detected.	Organic-coal tar-	
4	6	WC-21*	N/A 1	N/A	N/A	N/A	24	NA	SM	Black, organic fine silt, trace gravel. (like odor detected.	Organic-coal tar-	
6	8		N/A 1	N/A	N/A	N/A	24	NA	SM	Black, organic find silt, trace gravel. (like odor detected.	Organic-coal tar-	
8	8.5		N/A 1	N/A	N/A	N/A	6	NA	SM	Black, organic fine silt, trace gravel. (like odor detected.	Organic-coal tar-	

Notes: *Indicates composite sediment sample from entire core submitted for laboratory analysis for PCBs.

[^] Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

observed.

observed.

OL

Black, organic SILT, trace med sand and gravel. Organic-coal tar-

like odor detected, coal tar pockets

Start Date: April 23, 2009

End Date: April 23, 2009

C	lient Name:	NSTAR							_	Drilling Co.:	TG&B Marine	Services
Pr	oject Name:	Slip Area							-	Drilling Method:	Vibratory Core	;
S	ite Address:	180 MacArthur Driv	ve						_	Driller:	R. Reynolds	
									_	Lightship Rep.:	T. Remmers. D	. McGrath
	City:	New Bedford					State:	Massachusetts		_		
Cas	ing	<u>Sam</u> p	oler				Surface	e Water		Core	Surv	<u>'ey</u>
Type:	N/A	Type:			ninuı		Date:	N/A	Type:	N/A	Lat.	N/A
Size:	N/A	Size:	2		3" di	ia.	WL (ref.):		Size:		Long.	
Hammer:	N/A	Hammer:		N/A N/A			WL (bgs):		Length:	N/A	Elev.	N/A
Fall:	N/A	Fall:		N/A			SW Elev.: N/A					
Start Depth	Finish Depth	Sample ID	F	Blow	Cou	nt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	ption	Well Const.
0^	2		N/A	N/A	. N/A	N/A	24	NA	OL	Black, organic SIL sand and gravel. C like odor detected, observed.	Organic-coal tar-	
2	4		N/A	N/A	. N/A	N/A	24	NA	OL	Black, organic SIL sand and gravel. C like odor detected, observed.	Organic-coal tar-	
4	6		N/A	N/A	. N/A	N/A	24	NA	OL	Black, organic SIL sand and gravel. C like odor detected,	Organic-coal tar-	

Notes:

6

8

N/A N/A N/A N/A

24

NA

[^] Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Start Date: April 23, 2009

End Date: April 23, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area
Site Address: 180 MacArthur Drive Vibratory Core Drilling Method: R. Reynolds Driller: Lightship Rep.: T. Remmers. D. McGrath

	City:	New Bedford					State:	Massachusetts		-		
Type:	Fall: N/A Fall: N/A rt Denth Finish Sample ID Blow Count					Surface Water Date: N/A WL (ref.): N/A WL (bgs): N/A SW Elev.: N/A		Type: Size: Length:	N/A	<u>Surv</u> Lat Long Elev	N/A N/A	
Start Depth	Finish Depth	Sample ID	В	low	Cou	nt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	ption	Well Const.
0^	2		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic find SILT, trace medius gravel. Organic-co detected.	m sand and	
2	4		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic find SILT, trace medius gravel. Organic-co detected.	m sand and	
4	6		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic find SILT, trace medius gravel. Organic-co detected.	m sand and	
6	8		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic find SILT, trace medius gravel. Organic-co detected.	m sand and	
8	10		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic find SILT, trace medius gravel. Organic-co detected.	m sand and	
10	10.5		N/A	N/A	N/A	N/A	6	NA	SM	Black, organic find SILT, trace medius gravel. Organic-co detected.	m sand and	

^ Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Start Date: April 23, 2009

End Date: April 23, 2009

Pı	Client Name: roject Name: Site Address:		ve						· ·	Drilling Co.: Drilling Method: Driller:	TG&B Marine Vibratory Core R. Reynolds	;
	City:	New Bedford					State:	Massachusetts	-	Lightship Rep.:	T. Remmers. D	. McGrath
Cas Type: Size: Hammer: Fall:	N/A N/A	N/A Size: 20ft, 3" dia. N/A Hammer: N/A N/A Fall: N/A				Surface Date: WL (ref.): WL (bgs): SW Elev.:	N/A N/A	Type: Size: Length:	N/A	<u>Surv</u> Lat. Long. Elev.	N/A N/A	
Start Depth	Finish Depth	Sample ID	Е	Blow Count			Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descrip	Description	
0^	2		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic SAN gravel. Organic-co and coal tar pocket	al tar-like odor	
2	4		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic SA! gravel. Organic-co and coal tar pocket	al tar-like odor	
4	6		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic SA! gravel. Organic-co and coal tar pocket	al tar-like odor	
6	8		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic SAN gravel. Organic-co and coal tar pocket	al tar-like odor	
8	8.5		N/A	N/A	N/A	N/A	6	NA	SM	Black, organic SAN gravel. Organic-co and coal tar pocket	al tar-like odor	

[^] Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Organic-coal tar-like odor detected.

Black, organic SANDY SILT,

some medium sand and gravel.

Organic-coal tar-like odor detected.

Brownish Gray COARSE SAND,

little fine sand and gravel. Coal tar

pockets observed.

Start Date: April 23, 2009

End Date: April 23, 2009

C	lient Name:	NSTAR							-	Drilling Co.:	TG&B Marine	Services		
Pr	oject Name:	Slip Area							•	Drilling Method:	Vibratory Core	;		
S	ite Address:	180 MacArthur Driv	ve						•	Driller:	R. Reynolds			
										Lightship Rep.:	T. Remmers. D	McGrath		
	City:	New Bedford					State:	Massachusetts		_				
Cas	ing	Samı	oler				Surface	e Water		Core	Surv	<u>ey</u>		
Type:	N/A	Type:		Alun	ninuı	m	Date:	N/A	Type:	N/A	Lat.	N/A		
Size:	N/A	Size:	Size: 20ft, 3" dia. Hammer: N/A					N/A	Size:	N/A	Long.	N/A		
Hammer:	N/A	Hammer:					WL (bgs):	N/A	Length:	N/A	Elev.	N/A		
Fall:	N/A						SW Elev.:	N/A						
Start Depth	Finish Depth	Sample ID	E	Blow	Cou	nt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descrip	otion	Well Const.		
0^	2		N/A	N/A	. N/A	N/A	24	NA	SM	Black, organic SAN some medium sand Organic-coal tar-lik	and gravel.			
2	4		N/A	N/A	N/A	N/A	24	NA	SM	Black, organic SAN some medium sand				

NA

NA

24

24

SM

SP

Notes: ^ Indica

4

6

6

7.5

N/A N/A N/A N/A

N/A N/A N/A N/A

[^] Indicates start depth from top of sediment..



Casing

Sediment Core ID: WC-26

Page 1 of 1

Survey

Project #: 500.10.4

Start Date: April 23, 2009

Surface Water

End Date: April 23, 2009

Client Name: NSTAR Project Name: Slip Area Site Address: 180 MacArthur Drive

Drilling Co.: TG&B Marine Services Vibratory Core Drilling Method: R. Reynolds Driller:

T. Remmers. D. McGrath Lightship Rep.:

Core

observed.

City: New Bedford State: Massachusetts

Sampler

Type: Size: Hammer: Fall:	N/A N/A N/A N/A	Type: Aluminum Size: 20ft, 3" dia. Hammer: N/A Fall: N/A				Date: WL (ref.): WL (bgs): SW Elev.:	N/A N/A	Type: Size: Length:	N/A	<u>Surv</u> Lat. Long. Elev.	N/A N/A		
Start Depth	Finish Depth	Sample ID	Е	Blow	Cou	ınt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	iption	Well Const.	
0^	2		N/A	N/A	N/A	N/A	23	NA	ML	Black, organic find SILT, some mediu gravel. Organic-co detected.	m sand and		
2	4		N/A	N/A	N/A	N/A	23	NA	ML	Black, organic find SILT, some mediu gravel. Organic-co detected.	m sand and		
4	6		N/A	N/A	N/A	N/A	23	NA	ML	SILT, some mediu	lack, organic fine SAND and ILT, some medium sand and ravel. Organic-coal tar-like odor stected.		
6	8		N/A	N/A	N/A	N/A	23	NA	ML	Black, organic find SILT, some mediu gravel. Organic-co detected.	m sand and		
8	9		N/A	N/A	N/A	N/A	10	NA	ML	Black, organic find SILT, some mediu gravel. Organic-co detected.	m sand and		
9	10		N/A	N/A	N/A	N/A	12	NA	SW	Brown coarse SAN GRAVEL. Coal ta observed.			
10	12		N/A	N/A	N/A	N/A	6	NA	SW	Brown coarse SAN GRAVEL. Coal ta			

*Indicates composite sediment sample from entire core submitted for laboratory analysis for VOCs, SVOCs, RCRA 8 metals, Notes: TPH, total sulfur, and total cyanide.

[^] Indicates start depth from top of sediment.



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Project #: 500.10.4

Start Date: April 23, 2009

End Date: April 23, 2009

TG&B Marine Services Client Name: NSTAR Drilling Co.: Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Sampler Type: N/A Type: Aluminum Date: Type: N/A Lat. N/A 20ft, 3" dia. N/A WL (ref.): N/A N/A N/A Size: Size: Size: Long. WL (bgs): N/A N/A N/A Hammer: N/A Length: Elev. Hammer: N/A Fall: N/A Fall: N/A SW Elev .: N/A Lithology Recovery Sample ID Blow Count TOVs (ppmv) Description Well Const (USCS) Depth (inches) Black, organic fine to medium SAND and SILT, trace coarse sand 2 N/A N/A N/A N/A 19 NA ML

Start Depth 0^ and gravel. Organic-coal tar-like odor detected. Black, organic fine to medium SAND and SILT, trace coarse sand 2 4 N/A N/A N/A N/A 19 NA MLand gravel. Organic-coal tar-like odor detected. Black, organic fine to medium SAND and SILT, trace coarse sand 4 19 NA ML6 N/A N/A N/A and gravel. Organic-coal tar-like odor detected. Black, organic fine to medium SAND and SILT, trace coarse sand 6 8 N/A N/A N/A 19 NA MLand gravel. Organic-coal tar-like odor detected. Black, organic fine to medium SAND and SILT, trace coarse sand 8 10 N/A N/A N/A 19 NA MLand gravel. Organic-coal tar-like odor detected. Black, organic fine to medium SAND and SILT, trace coarse sand 10 12 N/A N/A N/A 19 NA SM and gravel. Organic-coal tar-like odor detected. Light brown coarse SAND, some 12 13.3 N/A N/A N/A 16 NA SM fine sand. Coal tar pockets detected.

Notes: ^ Indicates start depth from top of sediment.



^ Indicates start depth from top of sediment.

Notes:

Sediment Core ID: WC-28

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Project #: 500.10.4

Start Date: April 23, 2009

End Date: April 23, 2009

TG&B Marine Services Client Name: NSTAR Drilling Co.: Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Sampler Type: N/A Aluminum Date: Type: N/A Lat. N/A 20ft, 3" dia. N/A WL (ref.): N/A N/A N/A Size: Size: Size: Long. Hammer: WL (bgs): N/A N/A N/A Hammer: N/A Length: Elev. N/A N/A Fall: Fall: SW Elev .: N/A Finish Lithology Recovery Start Depth Sample ID Blow Count TOVs (ppmv) Description Well Const (USCS) Depth (inches) Black, organic fine SANDY SILT, 0^ 2 N/A N/A N/A N/A 24 NA MLsome medium sand. Organic-coal tar-like odor detected. Black, organic fine SANDY SILT, 2 4 N/A N/A N/A N/A 24 NA MLsome medium sand. Organic-coal tar-like odor detected. Black, organic fine SANDY SILT, 4 N/A N/A N/A N/A 24 NA ML some medium sand. Organic-coal 6 tar-like odor detected. Black, organic fine SANDY SILT, 6 8 N/A N/A N/A N/A 24 NA MLsome medium sand. Organic-coal tar-like odor detected. Light brown medium to coarse SW 8 10 N/A N/A N/A N/A 24 NA SAND, some gravel. Coal tar pockets detected. Light brown medium to coarse 10 SW12 N/A N/A N/A N/A 24 NA SAND, some gravel. Coal tar pockets detected. Light brown medium to coarse 12 14 N/A N/A N/A 6 NA SW SAND, some gravel. Coal tar pockets detected.



Page 1 of 1

Project #: 500.10.4

Start Date: April 24, 2009

End Date: April 24, 2009

Client Name: NSTAR Project Name: Slip Area Site Address: 180 MacArthur Drive

Drilling Co.: TG&B Marine Services Drilling Method: Vibratory Core R. Reynolds Driller:

T. Remmers. D. McGrath Lightship Rep.:

City: New Bedford State: Massachusetts

Casi	ing	<u>Sampler</u> Type: Aluminum			Surface	e Water		<u>Core</u>	Surv	ey	
Type:	N/A	Type:	Alu	minu	m	Date:	N/A	Type:	N/A	Lat.	N/A
Size:	N/A	Size:	20ft	, 3" d	ia.	WL (ref.):	N/A	Size:	N/A	Long.	N/A
Hammer:	N/A	Hammer:		N/A		WL (bgs):	N/A	Length:	N/A	Elev.	N/A
Fall:	N/A	Fall:		N/A		SW Elev.:	N/A				
Start Depth	Finish Depth	Sample ID	Blov	v Cou	ınt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	ption	Well Const.
0^	2		N/A N/	A N/A	N/A	21	NA	ML	Black, organic find SAND and SILT, and gravel. Organ odor detected.	trace coarse sand	
2	4		N/A N/	A N/A	N/A	21	NA	ML	Black, organic find SAND and SILT, and gravel. Organ odor detected.	trace coarse sand	
4	6		N/A N/	A N/A	N/A	21	NA	ML	Black, organic find SAND and SILT, and gravel. Organ odor detected.	trace coarse sand	
6	8		N/A N/	A N/A	N/A	21	NA	ML	Black, organic find SAND and SILT, and gravel. Organ odor detected.	trace coarse sand	
8	8.5		N/A N/	A N/A	N/A	6	NA	SW	Ligh brown coarse fine sand. Coal ta- detected.		

Notes:

TPH, total sulfur, and total cyanide.

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis for VOCs, SVOCs, RCRA 8 metals,

[^] Indicates start depth from top of sediment.



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Project #: 500.10.4

Start Date: April 24, 2009

End Date: April 24, 2009

Drilling Co.: TG&B Marine Services Client Name: NSTAR Vibratory Core Project Name: Slip Area Drilling Method:

S	Site Address:	180 MacArthur Driv	ve							Driller:	R. Reynolds	M-Castle
	City:	New Bedford					State:	Massachusetts	ı	Lightship Rep.:	T. Remmers. D). McGrath
	Hammer: N/A Hammer: N/A Fall: N/A Fall: N/A					Surface Date: WL (ref.): WL (bgs): SW Elev.:	N/A N/A	Type: Size: Length:	N/A	<u>Surv</u> Lat. Long. Elev.	N/A N/A	
Start Depth	-	Sample ID	E	Blow	Cou	ınt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	ption	Well Const.
0^	2		N/A	N/A	N/A	N/A	23	NA	ML	Black, organic fine trace medium sand tar-like odor detect	. Organic-coal	
2	4		N/A	N/A	N/A	N/A	23	NA	ML	Black, organic fine trace medium sand tar-like odor detect	. Organic-coal	
4	6		N/A	N/A	N/A	N/A	23	NA	ML	Black, organic fine trace medium sand tar-like odor detect	. Organic-coal	
6	8		N/A	N/A	N/A	N/A	23	NA	ML	Black, organic fine trace medium sand tar-like odor detect	. Organic-coal	
_										Black, organic fine	SILTY SAND,	

19

5

N/A N/A N/A N/A

NA

NA

ML

SW

trace medium sand. Organic-coal

Brown medium to coarse SAND

and GRAVEL, trace fine sand. Coal tar pockets detected.

tar-like odor detected.

^ Indicates start depth from top of sediment. Notes:

8

9.6

9.6

10



Casing

Notes:

Sediment Core ID: WC-31

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Survey

Project #: 500.10.4

Core

Start Date: April 24, 2009

End Date: April 24, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Vibratory Core Project Name: Slip Area Drilling Method: Site Address: 180 MacArthur Drive R. Reynolds Driller: Lightship Rep.: T. Remmers. D. McGrath

Surface Water

City: New Bedford State: Massachusetts

Sampler

Indicates start depth from top of sediment.

Type: Size: Hammer: Fall:	N/A N/A N/A N/A	Type: Size: Hammer: Fall:	2				Date: WL (ref.): WL (bgs): SW Elev.:	N/A N/A	Type: Size: Length:	N/A	Lat. Long. Elev.	N/A N/A
Start Depth	Finish Depth	Sample ID	E	Blow	Cou	nt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	ption	Well Const.
0^	2		N/A	N/A	N/A	N/A	19	NA	ML	Black, organic find trace medium sand tar-like odor detec	d. Organic-coal	
2	4		N/A	N/A	N/A	N/A	19	NA	ML	Black, organic find trace medium sand tar-like odor detec	d. Organic-coal	
4	6		N/A	N/A	N/A	N/A	19	NA	ML	Black, organic fine trace medium sand tar-like odor detec	d. Organic-coal	
6	7.5		N/A	N/A	N/A	N/A	14	NA	ML	Black, organic find trace medium sand tar-like odor detec	d. Organic-coal	
7.5	8		N/A	N/A	N/A	N/A	6	NA	SP	Brown coarse SA? medium sand. Co. detected.		



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Project #: 500.10.4

Start Date: April 24, 2009

End Date: April 24, 2009

Client Name: NSTAR
Project Name: Slip Area
Site Address: 180 MacArthur Drive

Drilling Co.: TG&B Marine Services
Drilling Method: Vibratory Core

Drillar: R Paymolds

5	Site Address:	180 MacArthur Driv	/e	-		R. Reynolds	M.C. d					
	City:	New Bedford				_	State:	Massachusetts	•	Lightship Rep.:	T. Remmers. D	O. McGrath
<u>Car</u> Type: Size: Hammer: Fall:	N/A N/A	Sampler Type: Aluminum Size: 20ft, 3" dia. Hammer: N/A Fall: N/A					Surface Date: WL (ref.): WL (bgs): SW Elev.:	N/A N/A	Core Type: N/A Size: N/A Length: N/A		<u>Surv</u> Lat. Long. Elev.	N/A N/A
Start Depth	Finish Depth	Sample ID	В	low	Cou	ınt	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	ption	Well Const.
0^	2		N/A	N/A	N/A	N/A	22	NA	OL	Black, organic fine trace medium sand tar-like odor detect	. Organic-coal	
2	4		N/A	N/A	N/A	N/A	22	NA	OL	Black, organic fine trace medium sand tar-like odor detect		
4	6		N/A	N/A	N/A	N/A	22	NA	OL	Black, organic fine trace medium sand tar-like odor detect	. Organic-coal	
6	7.5		N/A	N/A	N/A	N/A	16	NA	OL	Black, organic fine trace medium sand tar-like odor detect	. Organic-coal	
7.5	8		N/A	N/A	N/A	N/A	6	NA	SM	Brown coarse SAN medium sand and a pockets detected.	*	

Notes:

TPH, total sulfur, and total cyanide.

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis for VOCs, SVOCs, RCRA 8 metals,

[^] Indicates start depth from top of sediment.



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Start Date: April 24, 2009 End Date: April 24, 2009

Project #: 500.10.4

Client Name: NSTAR Project Name: Slip Area
Site Address: 180 MacArthur Drive

Drilling Co.: TG&B Marine Services Vibratory Core Drilling Method:

Driller: R. Reynolds
Lightship Rep.: T. Remmers. D. McGrath

	City:	New Bedford		State:	Massachusetts		•		
Cas	ing	Samp	ler	Surface	e Water	<u>(</u>	Core	Survey	
Type:	N/A	Type:	Aluminum	Date:	N/A	Type:	N/A	Lat.	N/A
Size:	N/A	Size:	20ft, 3" dia.	WL (ref.):	N/A	Size:	N/A	Long.	N/A
Hammer:	N/A	Hammer:	N/A	WL (bgs):	N/A	Length:	N/A	Elev.	N/A
Fall:	N/A	Fall:	N/A	SW Elev.:	N/A				
Start Depth	Finish Depth	Sample ID	Blow Count	Recovery (inches)	TOVs (ppmv)	Lithology (USCS)	Descri	ption	Well Const.

Start Depth Depth Sar		Sample ID	Blow Count			nt	(inches)	TOVs (ppmv)	(USCS)	Description	Well Const.
0^	2		N/A	N/A	N/A	N/A	20	NA	ML	Black, organic fine SILTY SAND, some medium sand, trace coarse sand. Organic-coal tar-like odor detected.	
2	4		N/A	N/A	N/A	N/A	20	NA	ML	Black, organic fine SILTY SAND, some medium sand, trace coarse sand. Organic-coal tar-like odor detected.	
4	6		N/A	N/A	N/A	N/A	20	NA	ML	Black, organic fine SILTY SAND, some medium sand, trace coarse sand. Organic-coal tar-like odor detected.	
6	8		N/A	N/A	N/A	N/A	20	NA	ML	Black, organic fine SILTY SAND, some medium sand, trace coarse sand. Organic-coal tar-like odor detected.	
8	10		N/A	N/A	N/A	N/A	20	NA	ML	Black, organic fine SILTY SAND, some medium sand, trace coarse sand. Organic-coal tar-like odor detected.	
10	11.5		N/A	N/A	N/A	N/A	18	NA	SM	Grayish brown medium to coarse SAND and GRAVEL. Coal tar pockets detected.	

*Indicates composite sediment sample from entire core submitted for laboratory analysis for PCBs. Notes:

[^] Indicates start depth from top of sediment.



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Project #: 500.10.9

Start Date: October 22, 2009 End Date: October 22, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Surface Water Casing Survey N/A Type: N/A Aluminum Type: N/A Lat. N/A Type: Date: N/A 20ft, 3" dia. N/A WL (ref.): N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: SW Elev.: Fall: N/A Fall: N/A N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace fine 0^ 2 N/A N/A N/A N/A NA OLsand. Organic-coal tar-like odor detected. 2 OL4 N/A N/A N/A N/A NA Same as above. OL4 6 N/A N/A N/A N/A NA Same as above. WC-1A* 6.51/111 6 8 N/A N/A N/A N/A NA OLSame as above. 8 10 N/A N/A N/A NA OLSame as above. Black/brown, fine to coarse 10 11 N/A N/A N/A N/A NA SWSAND. Organic-coal tar-like odor detected.

Notes: *Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



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Project #: 500.10.9

Start Date: October 22, 2009 End Date: October 22, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T.Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Survey Type: N/A Aluminum N/A N/A Lat. N/A Type: Date: Type: N/A 20ft, 3" dia. N/A WL (ref.): N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Const. Depth (feet) Black, organic SILT, trace fine sand, trace fine gravel. Coal tar 0^ 2 N/A N/A NA OLpockets observed. Coal tar-like odor detected. 2 OL4 N/A N/A NA Same as above. OL4 6 N/A N/A N/A N/A NA Same as above. 8'/12' WC-2A* 6 8 N/A N/A NA OLSame as above. 8 10 N/A NA OLSame as above. Gray, fine to coarse SAND, trace 10 12 N/A N/A N/A NA SWfine gravel. No staining with some coal tar-like odor.

Notes: *Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.9

Start Date: October 22, 2009 End Date: October 22, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey N/A Type: N/A Aluminum N/A Lat. N/A Type: Date: Type: N/A 20ft, 3" dia. N/A WL (ref.): N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace fine sand, trace fine gravel. Coal tar 0^ 2 N/A N/A N/A N/A NA OLpockets observed. Coal tar-like odor detected. OL2 4 N/A N/A NA Same as above. OL4 6 N/A N/A N/A N/A NA Same as above. WC-3A* 6 7 N/A N/A N/A N/A 10/13' NA OLSame as above. 7 9 N/A NA OLSame as above. 9 11 N/A N/A N/A NA OLSame as above. Gray, fine to coarse SAND, trace 11 13 N/A N/A N/A NA SWfine gravel. No staining with some coal tar-like odor.

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



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Project #: 500.10.9

Start Date: October 22, 2009 End Date: October 22, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Type: N/A Aluminum N/A N/A Lat. N/A Type: Date: Type: N/A N/A 20ft, 3" dia. N/A WL (ref.): N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A NA OLCoal tar pockets observed. Coal tar-like odor detected. 2 OL4 N/A N/A NA Same as above. OL4 6 N/A N/A N/A N/A NA Same as above. WC-4A* 6 7 N/A N/A N/A N/A 10/12.7' NA OLSame as above. 7 9 N/A NA OLSame as above. 9 11 N/A N/A N/A NA OLSame as above. Gray, fine to coarse SAND, trace 11 12.7 N/A N/A N/A NA SWfine gravel. No staining with some coal tar-like odor.

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



ENVIRONMENTAL & LAND-USE CONSULTANTS

Sediment Core ID: WC-5A

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Project #: 500.10.9

Start Date: October 22, 2009 End Date: October 22, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey N/A Type: N/A Aluminum N/A Lat. N/A Type: Date: Type: 20ft, 3" dia. N/A N/A WL (ref.): N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A NA OLOrganic-coal tar-like odor detected. 2 OL4 N/A N/A NA Same as above. Black, organic SILT, some medium sand. Coal tar pockets OL4 6 N/A N/A N/A N/A NA observed. Coal tar-like odor detected. WC-5A* 6 8 N/A N/A N/A N/A 12/13' NA OLSame as above. 8 10 N/A NA OLSame as above. 10 12 N/A N/A N/A NA OLSame as above. Gray, fine to coarse SAND, trace 12 13 N/A N/A N/A NA SWcoarse gravel. No staining with some coal tar-like odor.

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.9

Start Date: October 23, 2009 End Date: October 23, 2009

ENVIRONMENTAL & LAND-USE CONSULTANTS Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Type: N/A Aluminum N/A N/A Lat. N/A Type: Date: Type: N/A 20ft, 3" dia. N/A WL (ref.): N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A NA OLOrganic-coal tar-like odor detected. 2 OL4 N/A N/A NA Same as above. Black, organic SILT, trace sand, trace gravel. Coal tar pockets OL4 6 N/A N/A N/A N/A NA observed. Coal tar-like odor detected. WC-6A* 9'/12' 6 8 N/A N/A NA OLSame as above. 8 10 N/A NA OLSame as above. Gray, fine to coarse SAND, trace 10 12 N/A N/A N/A NA SWcoarse gravel. No staining with some coal tar-like odor.

Notes: *Indicates composite sediment sample from entire core submitted for laboratory analysis.

^ Indicates start depth from top of sediment.



ENVIRONMENTAL & LAND-USE CONSULTANTS

Sediment Core ID: WC-7A

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Project #: 500.10.9

Start Date: October 23, 2009 End Date: October 23, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Type: N/A Aluminum N/A N/A Lat. N/A Type: Date: Type: 20ft, 3" dia. WL (ref.): N/A N/A N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Const. Depth (feet) Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A NA OLOrganic-coal tar-like odor detected. 2 OL4 N/A N/A NA Same as above Black, organic SILT, trace sand. OL4 6 N/A N/A N/A N/A NA Coal tar pockets observed. Coal tar-like odor detected. WC-7A* 6 8 N/A N/A N/A N/A 11/14' NA OLSame as above 8 10 N/A NA OLSame as above Gray, fine to coarse SAND, trace 10 12 N/A N/A N/A NA SWcoarse gravel. No staining with some coal tar-like odor. 12 14 N/A N/A N/A NA SWSame as above

*Indicates composite sediment sample from entire core submitted for laboratory analysis.

^ Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.9

Start Date: October 23, 2009 End Date: October 23, 2009

Client Name: NSTAR
Project Name: Slip Area
Site Address: 180 MeaAsthur Drive

Drilling Co.: TG&B Marine Services
Drilling Method: Vibratory Core

with some coal tar-like odor.

Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Type: N/A Aluminum N/A N/A Lat. N/A Type: Date: Type: N/A N/A 20ft, 3" dia. N/A WL (ref.): Size: N/A Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: Elev. N/A Hammer: SW Elev.: Fall: N/A Fall: N/A N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Const. Depth (feet) Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A NA OLOrganic-coal tar-like odor detected. 2 OL4 N/A N/A NA Same as above. Black, organic SILT, trace sand. 9'/10' OL4 6 N/A N/A N/A N/A NA Coal tar pockets observed. Coal WC-8A* tar-like odor detected. 6 8 N/A NA OLSame as above. Gray, fine to medium SAND, 8 10 N/A N/A N/A NA SWtrace fine gravel. No staining

Notes: *Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



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Project #: 500.10.9

Start Date: October 23, 2009 End Date: October 23, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Type: N/A Aluminum N/A N/A Lat. N/A Type: Date: Type: 20ft, 3" dia. N/A WL (ref.): N/A N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A NA OLOrganic-coal tar-like odor detected. 2 OL4 N/A N/A NA Same as above. Gray, fine SAND, trace fine gravel. Coal tar pockets SW4 6 N/A N/A N/A N/A NA observed. Coal tar-like odor detected. 6 7 N/A N/A 9'/12' NA OLSame as above. WC-9A* 7 8 N/A NA OLSame as above. Gray, fine to coarse SAND, trace 8 10 N/A N/A N/A NA SWmedium gravel. No staining with some coal tar-like odor. Gray, fine to coarse SAND, trace 10 12 N/A N/A N/A NA SWmedium gravel. No staining with some coal tar-like odor.

*Indicates composite sediment sample from entire core submitted for laboratory analysis.

^ Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.9

Start Date: October 22, 2009 End Date: October 22, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers D. McGrath Lightship Rep.: State: Massachusetts City: New Bedford Surface Water Survey Type: N/A Aluminum N/A N/A Lat. N/A Type: Date: Type: N/A 20ft, 3" dia. N/A WL (ref.): N/A Size: N/A Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: Elev. N/A Hammer: SW Elev.: Fall: N/A Fall: N/A N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace fine 0^ 2 N/A N/A N/A N/A NA OLsand. Organic-coal tar-like odor detected. OL2 4 N/A N/A NA Same as above. OL4 6 N/A N/A N/A N/A NA Same as above. WC-10A* 8'/13' 6 8 N/A N/A NA OLSame as above. Black/brown, fine to coarse 8 10 N/A NA SWSAND, trace gravel. Organic-coal tar-like odor detected. 10 13 N/A N/A N/A NA SWSame as above.

Notes: *Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Sediment Core ID: WC-11A

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Project #: 500.10.9

Start Date: October 22, 2009 End Date: October 22, 2009

Client Name: NSTAR TG&B Marine Services Drilling Co.: Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive Driller: R. Reynolds Lightship Rep.: T. Remmers D. McGrath City: New Bedford State: Massachusetts Sampler Surface Water Survey N/A N/A N/A Type: Aluminum Date: N/A Type: Lat. Size: 20ft, 3" dia. N/A N/A N/A N/A WL (ref.): Size: Size: Long. Hammer: N/A Hammer: N/A WL (bgs): N/A Length: Elev. N/A Fall: N/A Fall: N/A SW Elev.: N/A

Start Depth	Finish Depth	Sample ID	Blow	Coun	t	Recovery/Penetration (feet)	TOVs (ppmv)	Lithology (USCS)	Description	Well Const.
0^	2		N/A N/A	N/A N	N/A		NA	OL	Black, organic SILT, trace silt. Coal tar pockets observed. Coal tar-like odor detected.	
2	4		N/A N/A	. N/A N	N/A		NA	OL	Same as above.	
4	6	WC-11A*	N/A N/A	. N/A N	N/A	51/91	NA	OL	Same as above.	
6	8		N/A N/A	. N/A N	Ñ/A		NA	OL	Black, fine to coarse SAND, little gravel. Coal tar-like odor detected.	
8	9		N/A N/A	. N/A N	N/A		NA	SW	Same as above.	

[^] Indicates start depth from top of sediment.



Sediment Core ID: WC-12A

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Project #: 500.10.9

Start Date: October 22, 2009 End Date: October 22, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers D. McGrath Lightship Rep.: State: Massachusetts City: New Bedford Surface Water Survey N/A Type: N/A Aluminum N/A Lat. N/A Type: Date: Type: N/A 20ft, 3" dia. N/A WL (ref.): N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Lithology Well Blow Count Start Depth Sample ID Recovery (feet) TOVs (ppmv) Description (USCS) Const. Depth Black, organic SILT, trace fine sand, trace fine gravel. Coal tar 0^ 2 N/A N/A NA OLpockets observed. Coal tar-like odor detected. OL2 4 N/A N/A NA Same as above. OL4 6 N/A N/A N/A N/A NA Same as above. WC-12A* 6 8 N/A N/A N/A 10/13' NA OLSame as above. 8 10 N/A NA OLSame as above. Gray, fine to coarse SAND, some 10 12 N/A N/A N/A NA SWmedium gravel. No staining with some coal tar-like odor. 12 13 N/A N/A N/A NA SWSame as above.

Notes:

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Sediment Core ID: WC-13A

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Project #: 500.10.9

Start Date: October 22, 2009 End Date: October 22, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Surface Water Survey N/A Type: N/A Aluminum N/A Lat. N/A Type: Date: Type: N/A 20ft, 3" dia. N/A WL (ref.): N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Const. Depth (feet) Black, organic SILT, trace fine sand, trace fine gravel. Coal tar 0^ 2 N/A N/A N/A N/A NA OLpockets observed. Coal tar-like odor detected. 2 OL4 N/A N/A NA Same as above. OL4 6 N/A N/A N/A N/A NA Same as above. WC-13A* 6 8 N/A N/A N/A 121/131 NA OLSame as above. 8 10 N/A NA OLSame as above. 10 12 N/A N/A N/A NA OLSame as above. Gray, fine to coarse SAND, some 12 13 N/A N/A N/A NA SP medium gravel. No staining with some coal tar-like odor.

Notes:

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Sediment Core ID: WC-14A

Page 1 of 1

Project #: 500.10.9

Start Date: October 22, 2009 End Date: October 22, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Type: N/A Aluminum N/A N/A Lat. N/A Type: Date: Type: 20ft, 3" dia. N/A N/A WL (ref.): N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A NA OLOrganic-coal tar-like odor detected. OL2 4 N/A N/A NA Same as above. Black, organic SILT, trace fine sand, trace fine gravel. Coal tar OL4 6 N/A N/A N/A N/A NA pockets observed. Coal tar-like odor detected. WC-14A* 6 8 N/A N/A N/A 12/13' NA OLSame as above. 8 10 N/A NA OLSame as above. 10 12 N/A N/A N/A NA OLSame as above. Gray, fine to coarse SAND and 12 13 N/A N/A N/A NA SWgravel. No staining with some coal tar-like odor.

Notes: *Indicates composite sediment sample from entire core submitted for laboratory analysis.

^Indicates start depth from top of sediment.



Sediment Core ID: WC-15A

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Project #: 500.10.9

Start Date: October 23, 2009 End Date: October 23, 2009

detected.

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Type: N/A Aluminum N/A N/A Lat. N/A Type: Date: Type: N/A 20ft, 3" dia. N/A WL (ref.): N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A NA OLOrganic-coal tar-like odor detected. 2 OL4 N/A NA Same as above. Black, organic SILT, trace fine sand, trace fine gravel. Coal tar OL4 6 N/A N/A N/A N/A NA pockets observed. Coal tar-like odor detected. WC-15A* 10'/12' 6 8 N/A NA OLSame as above. 8 10 N/A NA OLSame as above. Gray, fine to coarse SAND, trace fine gravel. Coal tar pockets 10 12 N/A N/A N/A NA SWobserved. Coal tar-like odor

[^] Indicates start depth from top of sediment.



Sediment Core ID: WC-16A

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Project #: 500.10.9

Start Date: October 23, 2009 End Date: October 23, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Type: N/A Aluminum N/A N/A Lat. N/A Type: Date: Type: N/A 20ft, 3" dia. N/A WL (ref.): N/A Size: N/A Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A NA OLOrganic-coal tar-like odor detected. 2 OL4 N/A N/A NA Same as above. Black, organic SILT, trace fine sand, trace fine gravel. Coal tar OL4 6 N/A N/A N/A N/A NA pockets observed. Coal tar-like odor detected. 9'/12' WC-16A* 6 8 N/A NA OLSame as above. 8 10 N/A NA OLSame as above. Black, fine to coarse SAND, some 10 12 N/A N/A N/A NA SWgravel. Coal tar-like odor detected.

[^] Indicates start depth from top of sediment.



Sediment Core ID: WC-17A

Page 1 of 1

Project #: 500.10.9

Start Date: October 23, 2009 End Date: October 23, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Surface Water Survey Type: N/A Aluminum N/A N/A Lat. N/A Type: Date: Type: 20ft, 3" dia. N/A N/A WL (ref.): N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A NA OLOrganic-coal tar-like odor detected. OL2 4 N/A N/A NA Same as above. Black, organic SILT, trace fine WC-17A* sand, trace fine gravel. Coal tar OL4 6 N/A N/A N/A N/A NA pockets observed. Coal tar-like odor detected. 9'/11' 6 8 N/A NA OLSame as above. 8 10 N/A NA OLSame as above. Gray, medium to fine SAND, trace medium gravel. Coal tar 10 11 N/A N/A N/A NA SWpockets observed. Coal tar-like odor detected.

[^] Indicates start depth from top of sediment.



Sediment Core ID: WC-18A

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Project #: 500.10.9

Start Date: October 23, 2009 End Date: October 23, 2009

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive R. Reynolds Driller: T. Remmers D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey N/A Type: N/A Aluminum N/A Lat. N/A Type: Date: Type: 20ft, 3" dia. N/A N/A WL (ref.): N/A N/A Size: Size: Size: Long. Hammer: N/A N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Fall: N/A Fall: N/A SW Elev.: N/A Finish Recovery/Penetration Lithology Well Blow Count Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (feet) Const. Black, organic SILT, trace sand. 0^ 2 N/A N/A N/A N/A NA OLOrganic-coal tar-like odor detected. OL2 4 N/A N/A NA Same as above. Black, organic SILT, trace fine sand, trace fine gravel. Coal tar OL4 6 N/A N/A N/A N/A NA pockets observed. Coal tar-like odor detected. 6 8 N/A N/A 11/13' NA OLSame as above. WC-18A* Gray, fine to coarse SAND, trace 8 10 N/A NA SWfine gravel. Coal tar observed. Coal tar-like odor detected. 10 12 N/A N/A N/A NA SWSame as above. 12 13 N/A N/A N/A NA SWSame as above.

Notes:

^{*}Indicates composite sediment sample from entire core submitted for laboratory analysis.

[^] Indicates start depth from top of sediment.



Page 1 of 1
Project #: 500.10.4

Start Date: January 28, 2010 End Date: January 28, 2010

Client Name: NSTAR
Project Name: Slip Area
Site Address: 180 MacArthur Drive

Drilling Co.: TG&B Marine Services
Drilling Method: Vibratory Core
Driller: L. Perry

Lightship Rep.: T. Remmers. D. McGrath

City: New Bedford State: Massachusett	achusetts	State: Massac	: New Bedford
---------------------------------------	-----------	---------------	---------------

	,.	Trew Dealord					· State.	Massachasetts			
Cas	sing	Samp	oler				Surface	Water	<u>Core</u>	Surv	ey
Type:	N/A	Type:	Α	Alum	inur	n	Date:	N/A	Type: N/A	Lat.	N/A
Size:	N/A	Size:	10) ft, :	3" di	a.	WL (ref.):	N/A	Size: N/A	Long.	N/A
Hammer:	N/A	Hammer:		N/	/A		WL (bgs):	N/A	Length: N/A	Elev.	N/A
Fall:	N/A	Fall:		N/	/A		SW Elev.:	N/A			
Start Depth	Finish Depth	Sample ID	В	low	Cou	nt	TOVs (ppmv)	Lithology (USCS)	Description		Well Const.
0^	2		N/A	N/A	N/A	N/A	NA	ML	Black TAR and SILT.		
2	3.5		N/A	N/A	N/A	N/A	NA	SW	Gray coarse SAND and GRAVEL	MGP residual.	

Notes:

NA - Not Applicable.

[^] Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Start Date: January 28, 2010 End Date: January 28, 2010

Drilling Co.: TG&B Marine Services Client Name: NSTAR Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive L. Perry Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Survey N/A N/A Type: N/A Type: Aluminum Date: Type: Lat. Long. N/A 10 ft, 3" dia. WL (ref.): N/A N/A N/A Size: Size: Size: N/A Hammer: WL (bgs): N/A N/A Elev. N/A Hammer: Length: N/A N/A SW Elev.: N/A Fall: Fall: N/A Lithology Well Const Start Depth Sample ID Blow Count TOVs (ppmv) Description (USCS) Depth 0^ 2 N/A N/A N/A N/A NA MLBlack TAR and SILT. (2 - 3 feet) Black TAR and SILT. 2 4 N/A N/A N/A N/A NA ML(3 - 4 feet) Gray coarse SAND and GRAVEL. MGP residual. SW4 N/A N/A N/A N/A NA Gray coarse SAND and GRAVEL. MGP residual. 6 6 8 N/A N/A N/A N/A NA SWGray coarse SAND and GRAVEL. MGP residual. SW 8 N/A N/A N/A N/A NA Gray coarse SAND and GRAVEL. MGP residual.

Notes:

^Indicates start depth from top of sediment.

NA - Not Applicable.



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Project #: 500.10.4

Start Date: January 28, 2010 End Date: January 28, 2010

Client Name: NSTAR
Project Name: Slip Area
Site Address: 180 MacArthur Drive

Drilling Co.: Drilling Method: TG&B Marine Services
Vibratory Core

Driller: L. Perry
Lightship Rep.: T. Remmers. D. McGrath

City: New Bedford State: Massachusetts

	,										
Cas Type: Size: Hammer: Fall:	N/A N/A N/A N/A N/A	Samp Type: Size: Hammer: Fall:	10				Surface Date: WL (ref.): WL (bgs): SW Elev.:	N/A N/A N/A	Core Type: N/A Size: N/A Length: N/A	<u>Surv</u> Lat. Long. Elev.	N/A N/A
Start Depth	Finish Depth	Sample ID	В	low	Cou	nt	TOVs (ppmv)	Lithology (USCS)	Description		Well Const.
0^	2		N/A	N/A	N/A	N/A	NA	ML	(0 - 0.5 feet) Black TAR and SILT. (0.5 - 2 feet) Black SILTY SAND,		
2	4		N/A	N/A	N/A	N/A	NA	ML/SW	(2 - 3 feet) Black SILTY SAND, so (3 - 4 feet) Gray fine SAND, so SAND. MGP residual.		
4	6.7		N/A	N/A	N/A	N/A	NA	SP	Gray fine SAND, some medium SA residual.	ND. MGP	

Notes: ^Indicates start depth from top of sediment.

NA - Not Applicable.



Page 1 of 1

Project #: 500.10.4

Start Date: January 28, 2010

End Date: January 28, 2010

Drilling Co.: TG&B Marine Services Client Name: NSTAR Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive L. Perry Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Core Survey N/A N/A Type: N/A Type: Aluminum Date: Type: Lat. 10 ft, 3" dia. N/A Size: WL (ref.): N/A N/A Long. N/A Size: Size: N/A Hammer: WL (bgs): N/A N/A Elev. N/A Hammer: N/ALength: SW Elev.: N/A N/A N/A Fall: Fall: Lithology Well Const Start Depth Sample ID Blow Count TOVs (ppmv) Description (USCS) Depth (0 - 1 feet) Black SILTY SAND and TAR. 0^ 2 N/A N/A N/A N/A NA ML(1 - 2 feet) Gray fine SAND. MGP residual. 2 SP Gray fine SAND. MGP residual. 3.5 N/A N/A N/A N/A NA

Notes: ^Indicates start depth from top of sediment.



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Project #: 500.10.4

Start Date: January 28, 2010 End Date: January 28, 2010

Drilling Co.: TG&B Marine Services Client Name: NSTAR Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive L. Perry Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Survey N/A N/A Type: N/A Type: Aluminum Date: Type: Lat. 10 ft, 3" dia. Long. N/A WL (ref.): N/A N/A N/A Size: Size: Size: N/A Hammer: WL (bgs): N/A N/A Elev. N/A Hammer: N/A Length: N/A SW Elev.: N/A Fall: Fall: N/A Finish Lithology Blow Count Well Const Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth 0^ 2 N/A N/A N/A N/A NA MLBrown to black SILTY SAND. MGP residual. Gray coarse SAND, some fine gravel. No visible 2 SP 4 N/A N/A N/A N/A NA MGP residual. Gray medium to fine SAND. No visible MGP SP 4 6 N/A N/A N/A N/A NA residual. Gray medium to fine SAND. No visible MGP 6 8 N/A N/A N/A N/A NA SP residual. Gray medium to fine SAND. No visible MGP SP 8 9.6 N/A N/A N/A N/A NA residual.

Notes:

^Indicates start depth from top of sediment.



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Project #: 500.10.4

Start Date: January 28, 2010 End Date: January 28, 2010

GRAVEL. Trace MGP residual.

TG&B Marine Services Client Name: NSTAR Drilling Co.: Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive L. Perry Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Sampler Type: N/A Type: Aluminum Date: Type: N/A Lat. N/A N/A 10 ft, 3" dia. WL (ref.): N/A N/A N/A Size: Size: Size: Long. Hammer: WL (bgs): N/A N/A Elev. N/A Hammer: N/A Length: N/A N/A N/A Fall: Fall: N/A SW Elev.: Lithology Well Const Start Depth Sample ID Blow Count TOVs (ppmv) Description (USCS) Depth 0^ 2 N/A N/A N/A N/A NA ML Black TAR, SILTY SAND and ORGANICS. (2 - 3 feet) Black TAR, SILTY SAND and ORGANICS. 2 4 N/A N/A N/A N/A NA ML (3 - 4 feet) Black TAR, medium SAND and SILT. (4 - 5 feet) Black TAR, medium SAND and SILT. 4 ML6 N/A N/A N/A N/A NA (5 - 6 feet) Black SILT, trace sand. MGP residual. 6 8 N/A N/A N/A N/A NA MLBlack SILT, trace sand. MGP residual. (8 - 9 feet) Black SILT, trace sand. MGP residual. ML/SW 8 9.6 N/A N/A N/A N/A NA (9 - 9.6 feet) Grayish black coarse SAND and

Notes:

^Indicates start depth from top of sediment.

NA - Not Applicable.



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Project #: 500.10.4

Start Date: January 28, 2010

End Date: January 28, 2010

 Client Name:
 NSTAR
 Drilling Co.:
 TG&B Marine Services

 Project Name:
 Slip Area
 Drilling Method:
 Vibratory Core

 Site Address:
 180 MacArthur Drive
 Driller:
 L. Perry

 Lightship Rep.:
 T. Remmers. D. McGrath

 City:
 New Bedford
 State: Massachusetts

	City:	New Bedford					State:	Massachusetts				
Cas	sing	Samp	oler				Surface	Water	<u>C</u> c	ore	Surv	ey
Type:	N/A	Type:		Alun	inur	n	Date:	N/A	Type:	N/A	Lat.	N/A
Size:	N/A	Size:	1	0 ft,	3" di	a.	WL (ref.):	N/A	Size:	N/A	Long.	N/A
Hammer:	N/A	Hammer:		N.	/A		WL (bgs):	N/A	Length:	N/A	Elev.	N/A
Fall:	N/A	Fall:		N.	/A		SW Elev.:	N/A]			
Start Depth	Finish	Sample ID	В	Blow	Cou	nt	TOVs (ppmv)	Lithology		Description		Well Const.
oure Beptin	Depth	Sample 12					10 (б (рршу)	(USCS)				
									(0 - 1 feet) Black	fine SAND and S	SILT. MGP	
0^	2		NT/A	NT/A	NT/A	NT/A	NT A	MI /CW	residual.			
0'	2		N/A	N/A	N/A	N/A	NA	ML/SW	(1 - 2 feet) Black	to gray medium t	to coarse SAND.	
									MGP residual.	<i>2 3</i>		
_									Black to gray mee	dium to coarse SA	ND. MGP	
2	3		N/A	N/A	N/A	N/A	NA	SW	residual.			

Notes: ^Indicates start depth from top of sediment.



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Survey

Project #: 500.10.4

Start Date: January 29, 2010

End Date: January 29, 2010

Core

Client Name: NSTAR Drilling Co.: TG&B Marine Services Project Name: Slip Area Vibratory Core Drilling Method: Site Address: 180 MacArthur Drive L. Perry Driller: Lightship Rep.: T. Remmers. D. McGrath

Surface Water

City: New Bedford State: Massachusetts

Sampler

Type:	N/A	Type:	Alun	ninur	n	Date:	N/A	Type: N/A	1	Lat.	N/A
Size:	N/A	Size:	10 ft,	3" di	ia.	WL (ref.):	N/A	Size: N/A	1	Long.	N/A
Hammer:	N/A	Hammer:	N.	/A		WL (bgs):	N/A	Length: N/A	1	Elev.	N/A
Fall:	N/A	Fall:	N.	/A		SW Elev.:	N/A				
Start Depth	Finish Depth	Sample ID	Blow	Cou	nt	TOVs (ppmv)	Lithology (USCS)	Descrij	ption		Well Const.
0^	2.		N/A N/A	NI/A	NI/A	NA	SM	(0 - 1 feet) Black SANDY	SILT, so	ome Tar.	
V	2		IV/A IV/A	IN/A	11/74	NA	5101	(1 - 2 feet) Black fine SAN	ND and S	SILT, some Tar.	
2	4.8		N/A N/A	N/A	N/A	NA	SW	Black coarse SAND and G MGP residual.	RAVEL	, trace silt.	

^Indicates start depth from top of sediment. Notes:

NA - Not Applicable.

Casing



Project #: 500.10.4

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Start Date: January 29, 2010 End Date: January 29, 2010

Drilling Co.: TG&B Marine Services
Drilling Method: Vibratory Core

 Client Name:
 NSTAR
 Drilling Co.:

 Project Name:
 Slip Area
 Drilling Method:

 Site Address:
 180 MacArthur Drive
 Driller:

	oject Name.								Dilling N		Vibratory Core	
S	ite Address:	180 MacArthur Driv	/e						•	Driller:	L. Perry	
									Lightsh	ip Rep.:	T. Remmers. D	. McGrath
	City:	New Bedford					State:	Massachusetts				
Cas	ing	Samp	ler				Surface	Water	Core		Surv	ey
Type:	N/A	Type:		Alun	inur	n	Date:	N/A	Type: N/A	A	Lat.	N/A
Size:	N/A	Size:	1	0 ft,	3" di	ia.	WL (ref.):	N/A	Size: N/A	A	Long.	N/A
Hammer:	N/A	Hammer:		N	/A		WL (bgs):	N/A	Length: N/A	A	Elev.	N/A
Fall:	N/A	Fall:		N	/A		SW Elev.:	N/A				
Start Depth	Finish	Sample ID	F	Blow	Con	nt	TOVs (ppmv)	Lithology	Descri	ntion		Well Const.
Start Deptii	Depth	Sample 1D		now	Cou	111	10 vs (ppiliv)	(USCS)	Descri	ption		wen const.
									(0 - 1 feet) Black SILTY S	SAND, O	RGANICS,	
									some Tar.			
0^	2		N/A	N/A	N/A	N/A	NA	ML/SM	(1 - 2 feet) Gray fine SAN	D some	silt. No visible	
									MGP residual.	D, some	Siit. NO VISIDIC	
		ł								~	1 -	
									(2 - 3 feet) Black SILT, tra	ace fine s	and. Trace	
2	4		N/A	N/A	N/A	N/A	NA	SM/SP	MGP residual.			
-			1,711	,	1 1/1 1	1 1/12	1471	5111/51	(3 - 4 feet) Gray fine SAN	D, trace	silt. No visible	
									MGP residual.			
		1										
									Gray medium to coarse SA	ND No	visible MGP	
4	6.5		N/A	N/A	N/A	N/A	NA	SW	residual.	11.12.110	V151010 141G1	

Notes: ^Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Start Date: January 29, 2010 End Date: January 29, 2010

Client Name: NSTAR
Project Name: Slip Area
Site Address: 180 MacArthur Drive

Drilling Co.: TG&B Marine Services
Drilling Method: Vibratory Core
Driller: L. Perry

Lightship Rep.: T. Remmers. D. McGrath

City: New Bedford State: Massachusetts

Cas	sing	Samp	ler			Surface	Water	<u>Core</u>	Surv	<u>ey</u>
Type:	N/A	Type:	Alu	minu	m	Date:	N/A	Type: N/A	Lat.	N/A
Size:	N/A	Size:	10 ft	, 3" d	ia.	WL (ref.):	N/A	Size: N/A	Long.	N/A
Hammer:	N/A	Hammer:	1	V/A		WL (bgs):	N/A	Length: N/A	Elev.	N/A
Fall:	N/A	Fall:	1	V/A		SW Elev.:	N/A			
Start Depth	Finish Depth	Sample ID	Blov	v Cou	ınt	TOVs (ppmv)	Lithology (USCS)	Description		Well Const.
0^	1.5		N/A N/A	A N/A	N/A	NA	SM	Black SILTY SAND, some Tar.		
1.5	3.5		N/A N/A	A N/A	N/A	NA	SW	Black coarse SAND, trace fine sand MGP residual.	d and gravel.	

Notes: ^Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Start Date: January 29, 2010 End Date: January 29, 2010

Drilling Co.: TG&B Marine Services Client Name: NSTAR Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive L. Perry Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Survey N/A N/A Type: N/A Type: Aluminum Date: Type: Lat. 10 ft, 3" dia. N/A WL (ref.): N/A N/A Long. N/A Size: Size: Size: N/A Hammer: WL (bgs): N/A N/A Elev. N/A Hammer: N/A Length: SW Elev.: N/A N/A Fall: Fall: N/A Lithology Well Const Start Depth Sample ID Blow Count TOVs (ppmv) Description (USCS) Depth (0 - 1 feet) Black SAND and SILT, little organics, 0^ 2 N/A N/A N/A N/A NA ML(1 - 2 feet) Black SILT and TAR. 2 Black SILT, little Tar. 4 N/A N/A N/A N/A NA ML ML/SW 4 5.3 NA Gray coarse SAND and GRAVEL. MGP residual. N/A N/A N/A

Notes:

^Indicates start depth from top of sediment.

NA - Not Applicable.



NA - Not Applicable.

Sediment Core ID: OSA-TS-12

Page 1 of 1

Project #: 500.10.4

Start Date: January 29, 2010 End Date: January 29, 2010

TG&B Marine Services Client Name: NSTAR Drilling Co.: Drilling Method: Vibratory Core Project Name: Slip Area Site Address: 180 MacArthur Drive Driller: L. Perry T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Surface Water Survey Sampler Core Type: N/A Type: Aluminum Date: Type: N/A Lat. N/A Long. Size: N/A Size: 10 ft, 3" dia. WL (ref.): N/A N/A N/A Size: Hammer: N/A Hammer: WL (bgs): N/A Length: N/A Elev. N/A N/A N/A Fall: N/A Fall: SW Elev.: Lithology Well Finish Start Depth Sample ID Blow Count TOVs (ppmv) Description (USCS) Const. Depth 0^ 2 N/A N/A NA Black SANDY SILT, some Tar. (2 - 2.5 feet) Black SILT, some tar, trace fine sand. (2.5 - 2.6 feet) Black TAR and SILT. 2 3.5 N/A N/A N/A N/A NA ML/SM/SW (2.6 - 3 feet) Black SILT, some tar, trace fine sand. (3 - 3.5 feet) Gray fine to med. SAND, trace silt. MGP residual. ^Indicates start depth from top of sediment. Notes:



Page 1 of 1

Project #: 500.10.4

Start Date: January 29, 2010 End Date: January 29, 2010

Client Name: NSTAR
Project Name: Slip Area
Site Address: 180 MacArthur Drive

Drilling Co.: Drilling Method: Driller: TG&B Marine Services
Vibratory Core
L. Perry

3	ite Address:	180 MacArtnur Driv	/e						_	Driller:		
	City:	New Bedford					State:	Massachusetts	-	Lightship Rep.:	T. Remmers. D	. McGrath
Cas		Samp		_			Surface			ore	Surv	*
Type: Size:	N/A N/A	Type: Size:		Alum) ft, 3		_	Date: WL (ref.):	N/A N/A	Type: Size:	N/A N/A	Lat. Long.	N/A N/A
Hammer: Fall:	N/A N/A	Hammer: Fall:		N/			WL (bgs): SW Elev.:	N/A N/A	Length:	N/A	Elev.	N/A
Start Depth	Finish Depth	Sample ID	В	low (Cou	nt	TOVs (ppmv)	Lithology (USCS)		Description		Well Const.
0^	2		N/A	NI/A	N/A	NI/A	NA	ML/SW	(0 - 1 feet) Brow MGP residual.	n to black SILTY	SAND. Trace	
U	2		IN/A	IN/A	IN/A	IN/A	NA	IVIL/SW	(1 - 2 feet) Brown visible MGP residence	n fine to medium dual.	SAND. No	
2	3.5		N/A	N/A	N/A	N/A	NA	SW	Brown fine to me residual.	edium SAND. No	visible MGP	

Notes: ^Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Start Date: January 29, 2010

End Date: January 29, 2010

Drilling Co.: TG&B Marine Services Client Name: NSTAR Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive L. Perry Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Core Survey N/A Type: N/A N/A Type: Type: Aluminum Date: Lat. 10 ft, 3" dia. N/A Size: N/A Size: WL (ref.): N/A Size: N/A Long.

Hammer: Fall:	N/A N/A	Hammer: Fall:			/A /A		WL (bgs): SW Elev.:		Length: N/A Elev.	N/A
Start Depth	Finish Depth	Sample ID	В	low	Cou	nt	TOVs (ppmv)	Lithology (USCS)	Description We	Vell Const.
0^	1.5		N/A	N/A	N/A	N/A	NA	ML	Brown to black SILTY SAND and ORGANICS, some Tar.	
1.5	3.5		N/A	N/A	N/A	N/A	NA	ML/SW	Brown to black fine SAND, trace silt, trace Tar.	
3.5	5		N/A	N/A	N/A	N/A	NA	SW	Gray medium to fine SAND, trace gravel. Trace MGP residual.	

Notes: ^Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Start Date: February 1, 2010

End Date: February 1, 2010

Drilling Co.: TG&B Marine Services Client Name: NSTAR Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive L. Perry Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Survey N/A N/A Type: N/A Type: Aluminum Date: Type: Lat. 10 ft, 3" dia. N/A Size: WL (ref.): N/A N/A Long. N/A Size: Size: N/A Hammer: WL (bgs): N/A Length: N/A Elev. N/A Hammer: N/A N/A N/A SW Elev.: N/A Fall: Fall: Lithology Blow Count Well Const Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth Black medium SAND and ORGANICS, trace fine 0^ 2 N/A N/A N/A N/A NA SP sand, trace Tar. (2 - 2.5 feet) Black SILTY SAND and TAR. 2 SM/SP 3.5 N/A N/A N/A N/A NA (2.5 - 3.5 feet) Black coarse SAND, some Tar.

Notes: ^Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

(1 - 2 feet) Brown medium to coarse SAND. No

visible MGP residual.

Start Date: February 1, 2010

End Date: February 1, 2010

Drilling Co.: TG&B Marine Services Client Name: NSTAR Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive L. Perry Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Core Survey Type: N/A N/A Type: N/A Type: Aluminum Date: Lat. 10 ft, 3" dia. N/A Size Size: WL (ref.): N/A N/A Long. N/A Size: N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Hammer: N/AN/A N/A SW Elev.: N/A Fall: Fall: Finish Lithology Blow Count Well Const Start Depth Sample ID TOVs (ppmv) Description (USCS) Depth (0 - 1 feet) Brown to black medium SAND and Organics, some Tar.

SP/SW

Notes: ^Indicates start depth from top of sediment.

N/A N/A N/A N/A

NA

NA - Not Applicable.

2

0^



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Project #: 500.10.4

Start Date: February 1, 2010 End Date: February 1, 2010

Drilling Co.: TG&B Marine Services Client Name: NSTAR Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive L. Perry Driller: Lightship Rep.: T. Remmers. D. McGrath City: New Bedford State: Massachusetts Casing Sampler Surface Water Core Survey N/A Type: N/AN/A Type: Aluminum Date: Lat. 10 ft, 3" dia. N/A N/A N/A Size: N/A Size: WL (ref.): Long. Size: N/A WL (bgs): N/A Length: N/A Elev. N/A Hammer: Hammer: N/AFall: Fall: SW Elev.:

		- **					- · · · · · · · · · · · · · · · · · · ·			
Start Depth	Finish Depth	Sample ID	Е	Blow	Cou	nt	TOVs (ppmv)	Lithology (USCS)	Description	Well Const.
0^	2		N/A	N/A	N/A	N/A	NA	SP	Brownish gray medium SAND. MGP residual.	
2	3.5		N/A	N/A	N/A	N/A	NA	ML/SP	(2 - 2.5 feet) Black TAR and SILT. (2.5 - 3.5 feet) Brownish gray medium SAND. MGP residual.	

Notes: ^Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Start Date: February 1, 2010

End Date: February 1, 2010

Drilling Co.: TG&B Marine Services Client Name: NSTAR Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive L. Perry Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Core Survey N/A N/A Type: N/A Type: Aluminum Date: Type: Lat. 10 ft, 3" dia. N/A Size: WL (ref.): N/A N/A Long. N/A Size: Size: N/A Hammer: WL (bgs): N/A Length: N/A Elev. N/A Hammer: N/AN/A N/A SW Elev.: N/A Fall: Fall: Finish Lithology Well Const Start Depth Sample ID Blow Count TOVs (ppmv) Description (USCS) Depth Grayish brown medium to coarse SAND. MGP 0^ 2 N/A N/A N/A N/A NA SW residual. Grayish brown coarse SAND, some medium sand 2 SW4.5 N/A N/A N/A N/A NA and gravel. MGP residual.

Notes:

^Indicates start depth from top of sediment.



Page 1 of 1

Project #: 500.10.4

Start Date: February 1, 2010

End Date: February 1, 2010

Drilling Co.: TG&B Marine Services Client Name: NSTAR Project Name: Slip Area Drilling Method: Vibratory Core Site Address: 180 MacArthur Drive L. Perry Driller: T. Remmers. D. McGrath Lightship Rep.: City: New Bedford State: Massachusetts Casing Sampler Surface Water Survey N/A N/A Type: N/A Type: Aluminum Date: Type: Lat. 10 ft, 3" dia. N/A Size: WL (ref.): N/A N/A Long. N/A Size: Size: N/A Hammer: WL (bgs): N/A N/A Elev. N/A Hammer: N/ALength: SW Elev.: N/A N/A Fall: Fall: N/A Lithology TOVs (ppmv) Well Const Start Depth Sample ID Blow Count Description (USCS) Depth 0^ 2 N/A N/A N/A N/A NA SP Black medium sand, some Tar. 2 4 N/A N/A N/A N/A NA SP Black TAR, some medium sand. (4 - 5 feet) Black TAR, some medium sand. SP 4 5.7 N/A N/A N/A NA (5 - 5.7 feet) Gray coarse SAND. MGP residual.

Notes:

^Indicates start depth from top of sediment.

NA - Not Applicable.



NA - Not Applicable.

Sediment Core ID: OSA-TS-20

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Project #: 500.10.4

Start Date: February 1, 2010

End Date: February 1, 2010

lient Name:	NSTAR							_	Drilling Co.:	TG&B Marine S	Services
oject Name:	Slip Area							_	Drilling Method:	Vibratory Core	
ite Address:	180 MacArthur Driv	ve						_	Driller:	L. Perry	
								_	Lightship Rep.:	T. Remmers. D.	McGrath
City:	New Bedford					State:	Massachusetts				
ing	Samp	oler				Surface	Water	<u>C</u>	ore	Surve	ey
N/A	Type:	Α	Mum	inur	n	Date:	N/A	Type:	N/A	Lat.	N/A
N/A	Size:	10) ft, :	3" di	ia.	WL (ref.):	N/A	Size:	N/A	Long.	N/A
N/A	Hammer:		N,	/A		WL (bgs):	N/A	Length:	N/A	Elev.	N/A
N/A	Fall:		N,	/A		SW Elev.:	N/A	1			
Finish Depth	Sample ID	В	low	Cou	nt	TOVs (ppmv)	Lithology (USCS)		Description		Well Cons
2		N/A	N/A	N/A	N/A	NA	ML/SW	(0 - 1.5 feet) Bla	ack SANDY SILT,	some Tar.	
								(1.5 - 2 feet) Bla	ack to gray med. Sa	AND, trace silt. M	
2.5		NI/A	NI/A	NI/A	NI/A	NA	CW	` /	0 3	SAND, trace silt.	
3.3		IN/A	N/A	N/A	N/A	NA	SW	(3 - 3.5 feet) Gr residual.	ay coarse SAND.	Trace MGP	
	oject Name: ite Address: City: N/A N/A N/A N/A Finish Depth	City: New Bedford Samp N/A N/A N/A Size: N/A Hammer: N/A Fall: Finish Depth Sample ID	oject Name: Slip Area ite Address: 180 MacArthur Drive City: New Bedford ing Sampler Type: A N/A Size: 10 N/A Hammer: N/A Fall: Finish Depth Sample ID B	Slip Area 180 MacArthur Drive 180 MacA	Slip Area 180 MacArthur Drive	Slip Area 180 MacArthur Drive	Slip Area 180 MacArthur Drive State: 180 MacArthur Drive State: Ing N/A N/A	origet Name: Slip Area Ite Address: Slip Area Ite Address: State: Massachusetts Ite Address: New Bedford State: Massachusetts Ite Address: State: Massachusetts Ite Address: New Bedford State: New Ite Address State: New Ite	Slip Area 180 MacArthur Drive State: Massachusetts M	oject Name: Slip Area ite Address: 180 MacArthur Drive City: New Bedford State: Massachusetts Surface Water N/A	oject Name: Slip Area ite Address: 180 MacArthur Drive City: New Bedford State: Massachusetts Surface Water Driller, Lightship Rep.: T. Remmers. D. Survey N/A



NA - Not Applicable.

Sheen generated during extraction of sediment core sampler.

Sediment Core ID: OSA-TS-21

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Project #: 500.10.4

Start Date: February 1, 2010 End Date: February 1, 2010

Depth O^ 2 N/A N/A N/A N/A N/A NA NA ML (0 - 1.5 feet) Black medium SAND, some Tar. (1.5 - 2 feet) Black TAR, trace silt and organics. (2 - 2.5 feet) Black TAR, trace silt and organics. (2 - 2.5 feet) Black TAR, trace silt and organics. (2 - 2.5 feet) Gray coarse SAND, trace medium sand. MGP residual. N/A N/A N/A N/A N/A NA SW Gray coarse SAND, trace medium sand. MGP residual. Black coarse SAND, some medium sand some	ENVIRON	IMENTAL &	LAND-USE CONSU	JLTA	ANTS	3							
City: New Bedford State: Massachusetts	Pr	oject Name:	Slip Area	ve						Drilling Method: Driller:	Vibratory Core L. Perry		
Type: N/A Size: N/A Size: 10 ft, 3" dia. WL (ref.): N/A Size: N/A Lat. N/A Lat. N/A Size: N/A Long. N/A WL (bgs): N/A Length: N/A Length: N/A Sw Elev. Start Depth Finish Depth Sample ID Blow Count TOVs (ppmv) Lithology (USCS) N/A		City:	New Bedford					State:	Massachusetts		T. Remmers. D	. McGrath	
Depth	Casing Sampler Surface Water Core Survey Type: N/A Type: Aluminum Date: N/A Type: N/A Lat. Size: N/A Size: 10 ft, 3" dia. WL (ref.): N/A Size: N/A Long. Hammer: N/A WL (bgs): N/A Length: N/A Elev.												
0^ 2 N/A N/A N/A N/A N/A NA ML (1.5 - 2 feet) Black TAR, trace silt and organics. (2 - 2.5 feet) Black TAR, trace silt and organics. (2 - 2.5 feet) Black TAR, trace silt and organics. (2 - 2.5 feet) Gray coarse SAND, trace medium sand. MGP residual. N/A N/A N/A N/A N/A N/A NA SW Gray coarse SAND, trace medium sand. MGP residual.	Start Depth		Sample ID	Е	Blow	Cou	nt	TOVs (ppmv)		Description		Well Const.	
2 4 N/A	0^	2		N/A	N/A	N/A	N/A	NA	ML	,			
4 6 N/A N/A N/A N/A NA SW residual. Black coarse SAND, some medium sand, some	2	4		N/A	N/A	N/A	N/A	NA	ML/SW	(2 - 2.5 feet) Black TAR, trace silt (2.5 - 4 feet) Gray coarse SAND, t	and organics.		
Black coarse SAND, some medium sand, some	4	6		N/A	N/A	N/A	N/A	NA	SW	,	sand. MGP		
Tar.	6	8.2		N/A	N/A	N/A	N/A	NA	SW	*	a sand, some		



Page 1 of 1

Project #: 500.10.4

Start Date: February 1, 2010 End Date: February 1, 2010

medium sand. MGP residual.

Client Name: NSTAR
Project Name: Slip Area
Site Address: 180 MacArthur Drive

Drilling Co.: TG&B Marine Services
Drilling Method: Vibratory Core
Driller: L. Perry

S	ite Address:	180 MacArthur Driv	/e					_	Driller:	L. Perry	M.C. d
	City:	New Bedford		_	Lightship Rep.:	T. Remmers. D	. McGrath				
Cas	ing	Samp	ler			Surface	Water	Core			ey
Type:	N/A	Type:	Al	uminu	m	Date:	N/A	Type:	N/A	Lat.	N/A
Size:	N/A	Size:	10	ft, 3" d	ia.	WL (ref.):	N/A	Size:	N/A	Long.	N/A
Hammer:	Hammer: N/A Hammer:			N/A		WL (bgs):	N/A	Length:	N/A	Elev.	N/A
Fall:	N/A	Fall:		N/A		SW Elev.:	N/A	1			
Start Depth	Finish Depth	Sample ID	Blo	ow Cou	ınt	TOVs (ppmv)	Lithology (USCS)		Description		Well Const.
0^	2		N/A N	I/A N/A	N/A	NA	ML	(0 - 1 feet) Black	c medium SAND,	some Tar.	
v	2		10/21	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1,71	1771	MIL	(1 - 2 feet) Black	TAR and SILT.		
						27.4) (T. (QTV)	(2 - 3 feet) Black			
2	4.6		N/A N	I/A N/A	N/A	NA	ML/SW	(3 - 4.6 feet) Bla	ck to gray coarse	SAND, trace	

Notes: ^Indicates start depth from top of sediment.

Boris		ation													
	Boring Location HORIZONTAL DATUM: NAD83 MA Mainland Zone GROUND SURFACE ELEVATION (FT): EASTING: 248314.38 NORTHING: 820277.82 ISBC-1														
1										. IION (FT): _			ISBC-1		
1	_	Inner S					_ NOF	CINII	NG: 020277.02			-	PAGE 1 of 1		
										•		<u> </u>			
	Drilling Information TOTAL DEPTH (FT): 11.0														
		R: CR				DRILLE	R: E.	Perro			B. Coulombe		_		
I				alu	minium res	search vessel					IOD: Vibraco				
1): <u>N/A /</u> PE: N/A							50 in / 3.50 in bs): N/A	HAMMED DDO	P (inch): N/A	۸.			
1		DIMENT		14.	5		TO TO TO		100). <u>11/24</u>	TAMINER DRO	r (ilicii). <u>N//</u>	`	_		
-		TES: _													
ABBRE	EVIATION	OD = Pen.	Inside Dian Outside D = Penetrat = Recover	iam ion	eter (Length S	U = Undistrubed C = Rock Core S = Split Spoon DP = Direct Pus	1		WOH = Weight of Hamme OVM = Organic Vapor Me PLO = Petroleum Like Od NLO = Naphthalene Like (eter H2S = H or	= Not Applicable, Hydrogen Sulfide L		ured		
			SAM	PLI	E INFORM	MATION		500				T			
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Туре	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC LO		Sample Description 8 Classification			Remarks		
	_	S1	0 to 11		11.0 / 6.9	62.7	NM		0.0-9.9': SILT (ML); trace clinkers, trace coating, NLO, black	gravel near b			Composite sample BS-1 collected from 0.0 to 11.0' in bucket 1 of 3.		
	- - 2														
	- -				l										
	- - 4														
	- -	3	i												
	- - 6	3													
<u> </u>	-			ŀ											
	- - 8				į			\							
	-							: 1 [] 1							
ļ	- lo														
	-	S2					NM		9.9-11.0': WIDELY (fine to coarse sand, some brown coating	tar saturated,	ID (SW); ~100 black stringers	% s,			
	- - 12								End of Boring at 11	feet			Heavy sheen and coal-tar coating observed on outside of core barrel. Heavy sheen observed on surface water. Blobs of tar observed in sand and		
}	.		ı										gravel in core barrel tip.		
	- 14														
boundarie	es betwee	nt the appro	Actual trai			NT: NSTA							GEI Consultants, Inc.		
made at ti	imes state	ater level re d. Water le							New Bedford Service	e Center			400 Unicorn Park Drive		
different a	it other tin	nes.			1	STATE: <u>N</u> ROJECT N					(JEI	in a surface of	Woburn, MA 01801 781-721-4000		

sediment 01 100920 NSTAR.GPJ GEI DATA TEMPLATE GDT 5/25/10

Rori	ng Loc	ation													
			IBAR - NIA	פח	2 MA Ma	inland Zon	· CDC	NIINI	D SURFACE ELEVATION (FT):	BORING					
	FING:	ISBC-2													
	_	Inner S					_ 1401	СІПІ	NG: <u>820279.57</u>	PAGE 1 of 1					
	Drilling Information														
			_	0 -	4/23/2010				TOTAL DEPTH (FT): 11.0						
CONT	RACTO	R: CR	Environm	enta	al, inc.	DRILLE		Perro							
		Lophiu: N/A /		t alu	ıminium res	earch vessel		3 :	BORING METHOD: Vibracore 5 in / 3.5 in						
		E: N/A				•			bs): N/A HAMMER DROP (Inch): N/A						
l	H TO SE		(ft): $\underline{\nabla}$ Density =			899 8:14 am									
	EVIATION	\$: ID = I	Inside Diar	nete	er (d Tube Sa	mple	WOH = Weight of Hammer NA, NM = Not Applicable, Not Me	asured					
		Pen.	Outside D = Penetrat = Recover	tion I	Length S	C = Rock Core S = Split Spoor DP = Direct Pu		1,	OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor						
			SAM	PLI	E INFORI	MATION		.0G							
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Туре	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC LOG	Sample Description & Classification	Remarks					
	2 - 4 - 6 - 8 - 10	\$1 \$2	0 to 11		11.0 / 6.0		NM NM	19	0.0-7.8': SILT (ML); ~95% fines, ~5% fine sand ranging from fine at top of strata and coarse at bottom, loose, brown tar staining from 4.0-7.8', NLO, tar pockets and stringers throughout, black. 7.8-11.0': SILT (ML); ~95% fines, ~5% fine to coarse sand, fully coated with tar, twigs, sand and some gravel in tip, NLO, black.	Composite sample BS-1 collected from 0.0 to 11.0' in bucket 2 of 3.					
Sheet "	- 12 , - 12 , 14 ,						1.		End of Boring at 11 feet	Refusal at 11'. Heavy sheen and coal-tar coating observed on outside of core barrel. Heavy sheen noted on surface water. Blobs of tar observed in sand and gravel in core barrel tip.					
boundarie	es between	nt the appro n soil types. ater level re	Actual tra	nsitio	ons CLIE	NT: NSTA	R		Now Podford Sonies Contac	GEI Consultants, Inc.					
made at t	imes state at other tim	u. Vvalei ie	vels may b	e		STATE: N			New Bedford Service Center	400 Unicorn Park Drive Woburn, MA 01801					
						ROJECT				nts 781-721-4000					

sediment 01 100920 NSTAR.GPJ GEI DATA TEMPLATE GDT 5/25/10

Boris	ng Loc	ation									DODING				
			M-NA	D81	R MA Ma	inland Zone	a GPC	MIN	SURFACE ELEVATION (F	n.	BORING				
1		248314.	ISBC-3												
l	_	Inner S							NG: 820278.55		PAGE 1 of 1				
		ormatio													
	DATE START / END: 4/23/2010 - 4/23/2010 TOTAL DEPTH (FT): 12.0														
,								епо		BY: B. Carlson	_				
		Lophiu: N/A /		alur	minium res	earch vessel	-	3	BORING I	METHOD: Vibracore					
_		E: N/A						_		DROP (inch): N/A					
						899 8:29 am									
	RAL NO		ensity = 8 Inside Dian			U = Undistrube	d Tube Sa	mple	WOH = Weight of Hammer N	IA, NM = Not Applicable, Not Me	asured				
	OD = Outside Diameter														
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Туре	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC L	Samp Descript Classific	ion &	Remarks				
	- - - 2	S1	0 to 12		12.0 / 6.8	56.7	NM		0.0-10.9': SILT (ML); ~95% f near top of strata to coarse s and veins of tar throughout, 8', trace organic material, NL	sand near bottom, blebs tar saturated from 6.2 to					
	4										Composite sample BS-2 collected from 3.0 to 7.9' in bucket 1 of 3.				
	- 8 - 8 10														
	- 12	S2					NM		10.9-12.0': SILTY SAND (SM sand, ~20% fines, ~10% grav NLO brown with black tar stai	/el ~1" in diameter,					
	- - - 14					,			End of Boring at 12 feet		Heavy sheen and coal-tar coating on outside of core barrel. Heavy sheen noted on surface water, and blobs of tar observed in sand and gravel in core barrel tip.				
boundarie	s betwee	nt the appro n soil types.	Actual tran			NT: NSTA					GEI Consultants, Inc.				
made at t	imes state	ater level red d. Water lev			1				New Bedford Service Center		400 Unicorn Park Drive				
amerent a	at other tin	IU3.				STATE: _N					Woburn, MA 01801				

sediment 01 100920 NSTAR.GPJ GEI DATA TEMPLATE.GDT 5/25/10



Bori	ng Lo	cation			-						BORING
1				D83 N	ИА Ма	inland Zon			D SURFACE ELEVATION (F	FT):	ISBC-4
1		248308. Inner S					_ NOF	RTH	NG: <u>820278.69</u>		PAGE 1 of 1
-		ormatio									
_		/END:	_	0 - 4/2	3/2010				TOTAL I	DEPTH (FT): 9.0	
		CR: CR				DRILLE earch vessel	R: <u>E.</u>	Pern		BY: B. Carlson METHOD: Vibracore	
AUGE	ER ID/OI	D: N/A /	N/A			CASING	ID/OD:		5 in / 3.5 in	WETHOD. VIDIACOIE	
1		PE: <u>N/A</u> EDIMENT (13.6	12/30/1	HAMME 899 11:00 an		HT (bs): N/A HAMMEI	R DROP (inch): N/A	
GENE	RAL NO	OTES: C	ensity = 8	30.3 lb	s/ft³						
ABBR	EVIATIO	OD = Pen.	Inside Dian Outside D = Penetrati = Recoven	iameter on Leng	gth S	U = Undistrube C = Rock Core S = Split Spoor DP = Direct Pu	1	i	WOH = Weight of Hammer OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor	NA, NM = Not Applicable, Not Me H2S = Hydrogen Sulfide Like Odd	asured r
			SAM	PLE II	NFORI	MATION		ဗြ			
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	ושו	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC I	Sam Descrip Classifi	tion &	Remarks
		S1	to 9	9.	0 / 5.5	61.1	NM		0.0-9.0': SILT (ML); ~95% top of strata to coarse sand veins of tar throughout, stai to 9', trace shells, NLO, sta	near bottom, blebs and ning on sleeve from 2.6	=
	- 4		e0								Composite sample BS-2 collected from 2.6 to 9.0' in bucket 2 of 3.
	6										
	- 8										
	- - - 10 -								End of Boring at 9 feet		Strong NLO. Heavy sheen and coal-tar coating observed on outside of core barrel. Sand, gravel, and tar observed in core barrel tip.
	12 										
· ·	- - 14 -										
boundari may be g made at	es between	ent the appro en soil types, /ater level re ed, Water lev mes.	Actual tran	e been	PROJ CITY/	NT: NSTA ECT NAMI STATE: N ROJECT N	E: NST	dfor		CEI	GEI Consultants, Inc. 400 Unicom Park Drive Woburn, MA 01801 nts 781-721-4000

						11									
	ng Loc									BORING					
HORI	ZONTA	L DATU	ICDC E												
EAS1	ING:	248309.	51		=======================================		NOR	THI	NG: 820278.74	ISBC-5					
LOCA	ATION:	Inner S	Slip							PAGE 1 of 1					
Drilli	Drilling Information														
	DATE START / END: 4/23/2010 - 4/23/2010 TOTAL DEPTH (FT): 12.0														
							R: E. F	Perro	ne LOGGED BY: B. Carlson						
				alur	minium res	earch vessel	10.00		BORING METHOD: Vibracore						
	R ID/OD IER TYP														
	1 TO SE	_													
GENE	RAL NO	TES: _	ensity =	82.6	lbs/ft ³										
ABBRI	asured r														
			= Penetrat = Recover			S = Split Spoon DP = Direct Pus			PLO = Petroleum Like Odor NLO = Naphthalene Like Odor						
- Class	D = = 415		OAIVI		. IIII ONI	MATION		507	Sample						
Elev. (ft)	Depth (ft)	Sample	Depth	Type	Pen./ Rec.	Percent Recovered	Field Test	GRAPHIC	Description &	Remarks					
		No.	(ft)	M	(ft)	(%)	Data	\X	Classification						
	-	S1	0	╁	12.0 / 5.8	48.3	NM	Ш	0.0-10.4': SILT (ML); ~95% fines, ~5% fine sand						
	-		to						near top of strata to coarse sand near bottom, blebs						
	-		12	Н					and veins of tar throughout, staining on sleeve from 3.3 to 10.3', trace shells, metal fragments, NLO,						
	L			Ш					stained black.						
	_ 2			Ш			i								
	_					ļ				1					
				Ш]]									
	-							Ш							
	-		1	Ш						Composite sample BS-2 collected from 3.3 to 10.3'					
	- 4									in bucket 3 of 3.					
	-														
	_														
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	- 6							1111							
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-	-							Ш							
	-														
	— 10 l														
	_	S2					NM]	Щ	10.4-11.6': WIDELY GRADED SAND (SW); ~100%						
	_	J2		:	ŀ				fine to coarse sand, tar, NLO, stained brown and						
	_								black.						
Ī		S3					NM		11.6-12.0': WIDELY GRADED SAND WITH						
İ	- 12 								GRAVEL (SW); ~75% fine to coarse sand, ~25% gravel <1.5" in diameter, tar, NLO, stained brown	Refusal at 12 feet. Strong					
ŀ	-								and black.	NLO and sheen observed on core. Sand, gravel,					
}	-						ļ		End of Boring at 12 feet	and coal tar observed in					
-	-							İ	End of boiling at 12 loot	tip of core barrel.					
}	- 14				İ	}									
-	-														
boundario	es betwee	nt the appr n soil types	. Actual tra			NT: NSTA				GEI Consultants, Inc.					
made at t	imes state	ater level re d. Water le	adings hav vels may b	/e be e					New Bedford Service Center	400 Unicorn Park Drive					
aifferent a	at other tin	ies.				STATE: <u>N</u> ROJECT N				Woburn, MA 01801					

sediment 01 100920 NSTAR GPJ GEI DATA TEMPLATE GDT 5/25/10



Bori	ng Loc	ation								BORING
		DNINU								
l				טט	IS IVIA IVIA	inianu Zon			D SURFACE ELEVATION (FT):	T0-1
1	_	248347.					_ NOF	RTHI	NG: <u>820286.73</u>	PAGE 1 of 1
LOCA	ATION:	Outer	Slip							PAGE 1011
		rmatio								
					4/21/2010				TOTAL DEPTH (FT): 3.2	
		R: CR I				earch vessel	R: <u>E.</u>	Perro	ne LOGGED BY: B. Carlson BORING METHOD: Push Core	
		: N/A /						2.0	325 in / 2.75 in	
HAMN	MER TYP	E: N/A							bs): N/A HAMMER DROP (inch): N/A	
						899 2:25 pm				
	EVIATION	TES: D	Inside Diar			U = Undistrube	d Tube Sa	mole	WOH = Weight of Hammer NA, NM = Not Applicable, No.	at Measured
		Pen.	Outside D = Penetrat = Recover	tion	neter (Length S	C = Rock Core S = Split Spoor DP = Direct Pu	1		OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor	
			SAM	PL	E INFORI	MATION		9		
Elev.	Depth			П	Pen./	Percent	Field	2	Sample	
(ft)	(ft)	Sample No.	Depth (ft)	Турв	Rec.	Recovered	Test	GRAPHIC	Description & Classification	Remarks
			(,	ľ	(ft)	(%)	Data	8		
		S1	0 to	П	3.2 / 3.2	100.	NM	Ш	0.0-1.0': SILT WITH SAND (ML); ~80% fines, ~15 fine to coarse sand, <5% gravel, loose, shell	%
			3.2	Н				[[]]	fragments, live clam, black-brown.	Ī
		S2		IJ			NM		1.0-2.6': WIDELY GRADED GRAVEL (GW); ~95%	6
	-)	gravel, ~5% fine to coarse sand, tar stringers present 2.5-2.6', NLO, black-brown.	
	2									
	-	S3					NM		2.6-3.2': SILT WITH SAND (ML); 85% fines, ~15%	
	-							Ш	fine to coarse sand, tar blebs, sheen, NLO, black.	'
	<u> </u>									
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Strata lin	es renresa	nt the appro	nximate							
boundario	es betwee	n soil types.	Actual trai	nsiti /e b		NT: <u>NSTA</u>		ΓΛĐ	New Bedford Service Center	GEI Consultants, Inc.
illane at t	imes state at other tin	d. Water le	vels may b	e		STATE: 1				400 Unicorn Park Drive Woburn, MA 01801
						ROJECT N				781-721-4000

sediment 01 100920 NSTAR.GPJ GEI DATA TEMPLATE.GDT 5/25/10

Bori	ng Loc	ation								BORING
			M: NA	D83	MA Ma	inland Zon	e GRO	UN	D SURFACE ELEVATION (FT):	
ı		248356.							NG: 820259.57	T25-6
LOCA	ATION:	Outer	Slip							PAGE 1 of 1
		rmatio	_							
		/END:				Dellie	R: E. F	Darro	TOTAL DEPTH (FT): 8.0	<u> </u>
						earch vesse		CIT	LOGGED BY: B. Carlson BORING METHOD: Vibracore	
l		: <u>N/A /</u>							5 in / 3.5 in	
		E: N/A		11.5	12/30/1	HAMME 899 2:45 pm		IT (I	bs): N/A HAMMER DROP (inch): N/A	
		TES: _								
ABBRI	EVIATION	easured or								
-			SAM	PLE	INFOR	MATION		ဗွ		
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Туре	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC LOG	Sample Description & Classification	Remarks
	 - -	S1	0 to 8	3	8.0 / 5.2	65.	S1 and S2: 15.2 ppm		0.0-1.2': SILTY SAND (SM); ~60% fine to coarse sand, ~40% fines, loose, shells, wood fragments, live clam, black.	Collected composite sample from 0-4.3'.
	_ 2	S2	i						1.2-2.3': SILTY SAND (SM); ~75% fine to coarse sand, ~20% fines, ~5% gravel less than 0.25", trace shells, trace wood, black.	
	-	S3					66.2 ppm		2.3-4.3': SILT (ML); ~95% fines, ~5% fine sand, trace shells, trace reeds, wood, slight staining, black.	
	- 4	S4					20.5 ppm		4.3-8.0': SILT (ML); ~95% fines, ~5% fine sand, trace shells, trace reeds, wood, grey-brown.	
	- 6									ox.
	- -									
	- 8 - -								End of Boring at 8 feet	Refusal at 8'. Sheen observed on core barrel. Silt observed in tip of core barrel.
, - -	- - 10 -		į		-	c				
ļ	- 12									
-	-					ļ				
	— 14 -									
		nt the appn n soil types		nsition	CLIE	NT: NSTA	AR	1		GEI Consultants, Inc.
may be gi	radual. Wa	ater level re d. Water le	adings hav	re bee	PROJ	ECT NAM	E: NST		New Bedford Service Center	400 Unicorn Park Drive
	at other tim		_, _			STATE: _I				Woburn, MA 01801



Bori	ng Loc	ation								T	BORING
HOR	ZONTA	L DATU	M: NA	D83	MA Ma	inland Zon	e GRC	UN	D SURFACE ELEVATION (FT):		
i		248361.					_		NG: 820273.24		T50-4
1	_	Outer					_			_	PAGE 1 of 1
Drilli	na Info	ormatio	n			25				<u> </u>	
				10 - 4	/22/2010				TOTAL DEPTH (FT): 1.7		
		R: CR					R: E. F	егго			_
		Lophiu : N/A /		t alur	minium res	earch vesse			BORING METHOD: Push C	ore	
		E: N/A							bs): N/A HAMMER DROP (Inch): N//	A .	
				13.4	12/30/1	899 7:57 am					
		TES: _C	ensity ≈						WOH = Weight of Hammer NA, NM = Not Applicable,		
ABBR	EVIATION	sured									
			SAM	PLE	INFOR	MATION		500			
Elev.	Depth				Pen./	Percent	Field	IC L	Sample Description &		Domonto
(ft)	(ft)	Sample No.	Depth (ft)	Туре	Rec.	Recovered	Test	GRAPHIC	Classification	ł	Remarks
			` '	Ш	(ft)	(%)	Data	8			
	_	S1 S2	0 to	H	1.7 / 1.7	100.	3.6 ppm 213.7	Ш	0.0-0.4': SILT WITH SAND (ML); ~60% fines, ~ fine to coarse sand, ~5% gravel, shells, black.	35%	Collected composite sample from 0-1.7'.
		32	1.7	N			ppm		0.4-1.1": SILT (ML); ~95% fines, ~5% fine to co	arse	
		S3					246 ppm		sand, trace reeds, some blebs, NLO, black. 1.1-1.7": SILT (ML); ~95% fines, ~5% fine to co.	arse	
	_ 2							1111	sand, trace reeds, tar blebs, NLO, staining on sleeve, black.	1	
				П							
	Ĺ					,			End of Boring at 1.7 feet	ļ	
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Strata !:-	as rancas	ent the appr	ovimat-								
boundari	es betwee	n soil types	Actual tra	nsitio	ns CLIE	NT: NSTA	AR	TA D	New Bedford Service Center		GEI Consultants, Inc.
made at	times state at other tin	W. Water ic	vels may b	ie		STATE:					400 Unicorn Park Drive Woburn, MA 01801
		75				ROJECT				onsultant	781-721-4000

Bori	ng Loc	ation								BORING				
	ORIZONTAL DATUM: NAD83 MA Mainland Zone GROUND SURFACE ELEVATION (FT): ASTING: 248365.09 NORTHING: 820271.73 DCATION: Outer Slip PAGE 1 of 1													
ı				NDO	3 IVIA IVIA	mand Zone				T50-4A				
	_						_ NOF	RTHI	NG: 820271.73					
LOCA	ATION:	Outer	Slip											
1		-			4/22/2010	DDU 1 5			TOTAL DEPTH (FT): 8.0					
ı		R: CR				DRILLEi search vessel	R: <u>E.</u>	Perro	DOGGED BY: B. Carlson BORING METHOD: Vibracore					
l .		: N/A /					ID/OD:	3.5	5 in / 3.5 in					
нами	MER TYP	E: N/A							bs): N/A HAMMER DROP (inch): N/A					
l			—			899 10:14 am	1							
	RAL NO		Density = Inside Diar			LI = Lindistruber	d Tuba Sa	mnle	WOH = Weight of Hammer NA, NM = Not Applicable, Not M					
		OĐ = Pen.	Outside E = Penetra = Recover	Diam tion	eter (Length S	C = Rock Core S = Split Spoon DP = Direct Pus	1		OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor	lor				
			SAM	PLI	E INFORI	MATION		503						
Elev.	Depth			П	Pen./	Percent	Field	2	Sample					
(ft)	(ft)	Sample No.	Depth (ft)	Type	Rec.	Recovered	Test	GRAPHIC	Description & Classification	Remarks				
		110.	(11)	ľ	(ft)	(%)	Data	GR.						
		S1	0	П	8.0 / 6.5	81.3	NM	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0.0-0.7': SHELL FRAGMENTS WITH SAND AND	Collected composite				
- to to sample from 0-5.8'. S2 8 NM TTT sand, ~10% fines, live clam, slight NLO, black. ✓														
	-	02		Ш			14101	Ш	0.7-5.7': SILT (ML); ~95% fines, ~5% fine to coarse	7				
	l i	!							sand, shells, reeds, tar blebs, sheen on soil, staining on sleeve observed between 0.7-2.8', NLO, black.					
	- 2			Н		1								
	-													
	-			П										
	-			Ш										
	_ 4													
										1				
						i								
	-	S3					NM	Щ	ET F DI MADDONI V CDADED CAND (CD) 4000	_				
	- 6	S4					NM		5.7-5.8': NARROWLY GRADED SAND (SP); 100% coarse sand, orange.					
	-								5.8-6.9': SILT WITH SAND (ML); ~60% fines, ~40%	1				
	-	S5					NM		fine sand, reeds, shells, olive-brown. 6.9-8.0': SILTY SAND (SM); ~60% fine to coarse	-				
	-				1				sand, ~30% fines, ~10% fine to coarse gravel less					
	- 8						. 489		than 1", olive-brown.					
	_			П					End of Boring at 8 feet	Refusal at 8'. Coal tar observed on outside of				
	_				ĺ				-	core barrel. Sand				
										observed in tip of core barrel.				
	-	ľ												
	— 10													
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Strata lin	es represe	nt the appr	oximate		TC: IF:	NT, NOTA				CEI Consultanta la a				
boundan may be g	es betweer radual. Wa	n soil types ater level re	. Actual tra	ve be	en PRO.	NT: <u>NSTA</u> Ject name	irs E: NS	ΓAR	New Bedford Service Center	GEI Consultants, Inc. 400 Unicorn Park Drive				
made at	imes state at other tim	u, vvatel le	vels may b	e		STATE: N				Woburn, MA 01801				
						PO JECT N				781-721-4000				



Borii	ng Loc	ation									BORING
1 —			M: NA	D8	3 <u>MA Ma</u>	inland Zone	e GRO	DUN	D SURFACE ELEVATION (FT):		
1		248360.							NG: 820272.61		T-50-4A-GT
LOCA	ATION:	Outer	Slip								PAGE 1 of 1
		ormatio									
					4/23/2010	DBULE	D	D		H (FT): 7.0	_
		R: <u>CR I</u> Lophius				earch vessel	R: <u>E.</u>	Perro		M. Sabulis THOD: Vibracore	_
		: N/A /							5 in / 2.625 in		
		E: <u>N/A</u>		13	1 12/30/1	. HAMME 899 12:58 pm		HT (I	bs): N/A HAMMER DR	OP (inch): N/A	
	RAL NO										
ABBRI	EVIATION	OD = Pen.	Inside Diar Outside D = Penetrat = Recover	iame	eter _ength	U = Undistruber C = Rock Core S = Split Spoon DP = Direct Pu	1			M = Not Applicable, Not Mea - Hydrogen Sulfide Like Odo	
			SAM	PLE	INFOR	MATION		90			
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Туре	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC LOG	Sample Description Classification		Remarks
	<u>-</u>	S1	0 to 7		7.0 / 5.0	71.4	NM		Not classified.		
	- 2										92
	- -										
	- 4										
	-										
	- - 6										Collected core sample T50-4A-GT (6-7').
	- - - 8				1 -		•		End of Boring at 7 feet	-	Sheen and NLO noted on core.
	-						į				
	- - 10			ļ							
	-			İ							
	- - 12										
	-				i					·	
	- 14						ļ				
Charter	-		ander -1					į			
boundari	es betwee	ent the appr n soil types ater level re	. Actual tra	nsitio		NT: NSTA		TA D	Now Bodford Control		GEI Consultants, Inc.
made at t	radual. vv imes state at other tin	ed. Water le	vels may b	e	1	JECT NAMI /STATE: <u> </u>	_		New Bedford Service Center		400 Unicorn Park Drive Woburn, MA 01801
						PROJECT N				GEI	nts 781-721-4000

Borii	ng Loc	ation				<u> </u>							BORING
l ———			M: NA	D83	3 MA Ma	inland Zone	e GRO	UNI	SURFACE ELEVA	ATION (FT):			
l		248363.							NG: 820272.28			_ _	T-50-4-GT
LOCA	ATION:	Outer :	Slip									_	PAGE 1 of 1
		ormatio										-	
		/END: _ R: CRI				DRILLE	R: E. F	Perro	ne	TOTAL DEPTH LOGGED BY:			_
						earch vessel		CITO		BORING METH			
		: <u>N/A /</u> PE: N/A							5 in / 2.625 in bs): N/A	HAMMED DDG	10 (1	NI/A	
				13.1	12/30/1	399 12:15 pn		וו) ניה	08): N/A	HAMMER DRO	P (inch): _	N/A	_
	RAL NO												
ABBRI	EVIATION	OD = Pen.	Inside Diar Outside [= Penetrar = Recover	iame	eter (ength S	D = Ondistrube C = Rock Core S = Split Spoor DP = Direct Pu	1	-	WOH = Weight of HammoVM = Organic Vapor Mi PLO = Petroleum Like Or NLO = Naphthalene Like	eter H2S = 1 dor	1 = Not Applical Hydrogen Sulfic		sured
			SAM	PLE	INFOR	MATION		507					
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Туре	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC L		Sample Description & Classification			Remarks
	_	S1	0 to 6		6.0 / 5.0	83.3	NM		Not classified.	=			Collected core sample T50-4-GT (0-1').
	_ 2												Collected core sample T50-4-GT (2-3').
	- 4 - -												Collected core sample T50-4-GT (5-6').
	— 6 -	,					:		End of Boring at 6	feet			Silt, sand, and gravel observed in tip. NLO and sheen observed in tip.
	- 8 -												
	- - 10 - -				,	į							
	- - 12 -				F1								-
	- - 14 -							ia .					
boundarie	es betwee	ent the appro	Actual tra	nsitio	ns CLIE	NT: NSTA	NR .						GEI Consultants, Inc.
maye at t	radual, Wi imes state at other tin	d' AAGIGI IC	adings hav vels may b	e bed	CITY/	STATE: 1	New Bed	dforc		ce Center	GFI		400 Unicorn Park Drive Woburn, MA 01801



Bori	ng Loc	ation								BORING					
			IMI: NA	אם	3 MA Ma	inland Zone	GRO	SUN	D SURFACE ELEVATION (FT):	DORING					
		248360.			0 140 (1410	mana zone				T50-5					
		Outer					_ 1401	VIIII	NG: 820265.50	PAGE 1 of 1					
				15-1											
		ormatio		n -	4/22/2010				TOTAL DEPTH (ET). 7.0						
		R: CR				DRILLEI	R: E.	Perro	TOTAL DEPTH (FT): 7.8 one LOGGED BY: B. Carlson						
ı				alu	ıminium res	search vessel			BORING METHOD: Vibracore						
		: <u>N/A /</u> PE: N/A							5 in / 3.5 in bs): N/A HAMMER DROP (inch): N/A	8					
				10.	8 12/30/1	899 10:39 am		ואיות	bs): N/A HAMMER DROP (inch): N/A						
	_	TES: [
ABBR	EVIATION	Pen.	Inside Diar : Outside D = Penetrar = Recover	iam tion	eter (Length (U = Undistrubed C = Rock Core S = Split Spoon DP = Direct Pus			WOH = Weight of Hammer OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor						
			SAM	PLI	E INFORI	MATION		100							
Elev.	Depth				Pen./	Percent	Field] ੂ	Sample Description &	Remarks					
(ft)	(ft)	Sample No.	Depth (ft)	Туре	Rec.	Recovered	Test	GRAPHIC	Classification	Remarks					
				Ш	(ft)	(%)	Data	5							
	-	S1	0 to	П	7.8 / 6.5	83.3	NM	Ш	0.0-2.2': SILT WITH SAND (ML); ~55% fines, ~45% fine to coarse sand, shells, reeds, NLO, H2S odor,	Collected composite sample from 0-5.5'.					
	_														
	_ 2														
	_	S2		П			NM		2.2-4.8': SILT (ML); ~95% fines, ~5% fine to coarse						
	Ĺ] [sand, shells, reeds, NLO, sheen, stained black.						
				Н											
	_ 4] [\mathbb{H}	4						
	_														
		S3					NM		4.8-5.5': SILT (ML); ~95% fines, ~5% fine to coarse	_					
								Ш	sand, slight NLO, brown-black.						
	_ 6	S4					NM		5.5-6.6': NARROWLY GRADED SAND (SP); ~95% fine sand, ~5% fines, grey.						
	_	S5					NM		6.6-7.8': WIDELY GRADED SAND (SW); ~100%						
	_								fine to coarse sand, orange-brown.						
	_ 8					-		• • • •		Refusal at 7.8'. Sheen					
	_					504			End of Boring at 7.8 feet	observed on outside of core barrel. Sand					
į	_	ļ								observed in tip of core					
	-				i					barrel.					
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boundarie	es betwee	nt the appr	. Actual tra	nsiti		NT: NSTA				GEI Consultants, Inc.					
may be g made at t	radual. Wi times state	ater level re d. Water le	adings hav	re be	PRO.				New Bedford Service Center	400 Unicorn Park Drive					
aitterent a	at other tin	nes.			1	'STATE: <u>N</u> PROJECT N				Woburn, MA 01801					

Bori	ng Loc	ation								T	DODINO				
			IBR. NIA	Des	NAA NAa:	inland Zana	00/		D OUDEAGE EL EVATION (ED		BORING				
l				נסט	NIA IVIA	mand Zone	_		D SURFACE ELEVATION (FT):		T75-1				
l	_	248365.					_ NOF	RTHI	NG: 820288.16	—	PAGE 1 of 1				
LOCA	ATION:	Outer	Slip								PAGE 1011				
		rmatio			10010040										
		R: CR			/22/2010 L. Inc.	DRILLEI	R: F	Perro	TOTAL DEPTH (FT): 4.0 DOI: 10.00000000000000000000000000000000000		_				
						earch vessel		Cito	BORING METHOD: Vibracon	re	_				
AUGE	R ID/OD	: N/A /	N/A			CASING	ID/OD:	3.	5 in / 3.5 in						
		E: <u>N/A</u>					R WEIG	HT (I	bs): N/A HAMMER DROP (inch): N/A		_				
	RAL NO		(π): <u> </u> Density =			899 3:19 pm									
		S: ID =				J = Undistrubed	d Tube Sa	mple	WOH = Weight of Hammer NA, NM = Not Applicable,	Not Meas	ured				
		Pen.	Outside [= Penetra = Recover	tion L	ength S	C = Rock Core S = Split Spoon DP = Direct Pus			OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor						
			SAM	PLE	INFORM	MATION		507							
Elev.	Depth			П	Pen./	Percent	Field	5 Z	Sample		2				
(ft)	(ft)	Sample No.	Depth (ft)	Туре	Rec.	Recovered	Test	GRAPHIC	Description & Classification	-	Remarks				
			,		(ft)	(%)	Data	S.							
	S1 0 4.0 / 2.5 62.5 NM 0.0-1.0': SILTY SAND (SM); ~40% fine to coarse to sand, ~35% fines, ~25% crushed shells, wood fragments, loose, black-brown.														
	-	S2		Ш			NM		1.0-2.9': SILTY SAND (SM); ~85% fine to coarse						
	sand, ~15% fines, trace reeds, trace shell fragments, one cobble ~0.3' long, 1" silty lens at 2.6',														
	one cobble ~0.3' long, 1" silty lens at 2.6', black-brown.														
	- Diauk-brown.														
	-	S3					NM		2.9-4.0': SILT (ML); ~95% fines, <5% fine sand,	tar					
	-								tar veins, NLO, black-brown.	· .					
	4							Ш							
									End of Boring at 4 feet	1	Refusal at 4.0'. Gravel, sheen, and blebs				
						İ			•		observed in tip of core				
											barrel. Sheen observed on water in core.				
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	— 6 <u> </u>														
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Strata line	es represe	nt the appr	oximate								0=10				
boundarie	es betweer	n soil types	Actual tra	nsitio		NT: NSTA		ΓAP	New Bedford Service Center		GEI Consultants, Inc.				
made at t	imes state	d, vvalei ie	vels may b	e		STATE: N					400 Unicorn Park Drive Woburn, MA 01801				
		955			- 1	ROJECT N				onsultant	781-721-4000				





D	1 .	4.									
	ng Loc		1	BORING							
HORI	ZONTA	L DATU	M: <u>N</u> A	D8	3 MA Ma	inland Zone	e GRO	DUNI	SURFACE ELEVATION (FT):		T75 2
EAST	TING: _	<u> 248369.</u>	66				_ NOF	RTHI	NG: 820279.03	_	T75-3
LOCA	ATION:	Outer	Slip								PAGE 1 of 1
Drilli	ng Info	ormatio	n								
				0 -	4/22/2010				TOTAL DEPTH (FT): 5.0		
l		R: CR				DRILLE		Perro	ne LOGGED BY: B. Carlson		_
l				alu	ıminium res	search vessel			BORING METHOD: Vibraco	ore	
): <u>N/A /</u> PE: N/A	•						5 in / 3.5 in B		
1				15.	7 12/30/1	. 899 10:27 an		(HAMMER DROP (IIICII). 197		
GENE	RAL NO	TES: _D	ensity =	98.6	6 lbs/ft ³						
ABBRI	EVIATION	S: ID = I	Inside Diar Outside D			U = Undistrube C = Rock Core		ımple	WOH = Weight of Hammer OVM = Organic Vapor Meter NA, NM = Not Applicable H2S = Hydrogen Sulfide		sured
		Pen.	= Penetral	ion i	Length :	S = Split Spoor	1	•	PLO = Petroleum Like Odor NLO = Naphthalene Like Odor	Like Odor	
			SAM	PLI	E INFORI	MATION		90			
Elev.	Depth				Pen./	Percent	Field	GRAPHIC LOG	Sample Description &		Damada
(ft)	(ft)	Sample No.	Depth	Type	Rec.	Recovered	Test	APH	Classification		Remarks
			(1.7)		(ft)	(%)	Data	GR			
		S1	%	Collected composite							
			to 5	Н				₽	shell fragments, ~10% fine to coarse sand, ~10 fines, reeds, black.	%	sample from 0-5.0'.
	-										
	-										
	- 2	arse									
	_			H					sand, shells, reeds, stained sleeve, sheen, NLC black.	' [']	
	_					1		Ш			
				H						ĺ	
	- 4										
	-	S3		ľ]	NM		4.6-5.0': WIDELY GRADED GRAVEL (GW); ~9	00%	
	-							-	fine to coarse gravel mostly < 1/2", 10% fine to	· /	Refusal at 5.0'. Gravel
	-	ļ				[coarse sand, NLO, tar staining, black.		and sand observed in tip of core barrel. Sheen
ĺ	- 6					[End of Boring at 5 feet		observed on water in
	-										core.
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		nt the appro		nsitio	ons CLIE	NT: NSTA	R				GEI Consultants, Inc.
may be g	radual. Wa	ater level re d. Water le	adings hav	re be	PRO	JECT NAME	E: NS		New Bedford Service Center	(\bigcirc)	400 Unicorn Park Drive
	it other tim					/STATE: <u>N</u> PROJECT N					Woburn, MA 01801



Bori	ng Loc	ation								BORING					
LOCATION: Outer Slip PAGE 1 of															
			^7							T75-6					
LOC	ATION:	Outer	Slip							PAGE 1 of 1					
Drilli	ng info	rmatio	n					_							
					/22/2010				TOTAL DEPTH (FT): 3.0						
		R: CR				DRILLE earch vesse	R: <u>E.F</u>	Perro							
		: N/A /		alui	IIIIIIIIII IES			3.	BORING METHOD: Vibracore 5 in / 3.5 in						
		E: <u>N/A</u>						HT (I	bs): N/A HAMMER DROP (inch): N/A						
		DIMENT (TES: [899 3:53 pm		-							
	EVIATION	S: ID =	Inside Diar	neter				mple	WOH = Weight of Hammer NA, NM = Not Applicable, Not						
		Pen.	Outside D = Penetrat = Recover	lion L	ength S	C = Rock Core S = Split Spoor DP = Direct Pu	n		OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor	Odor					
			SAM	PLE	INFORI	MATION		100	_						
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Туре	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC I	Sample Description & Classification	Remarks					
S1 0 to 3.0 / 3.0 100. S1 and S2: 13.6 ppm 0.0-0.8': SILT WITH SAND (ML); ~85% fines, ~15% fine sand, shells, loose, dark brown. S2 0.8-1.9': SILT (ML); ~90% fines, ~10% fine sand,															
	_	S2							0.8-1.9': SILT (ML); ~90% fines, ~10% fine sand, trace shells, olive-brown.						
	S3 and S4: 20.5 fine to coarse sand, shell fragments, brown-black.														
	-	S4				i	ppm		2.4-3.0': SILT (ML); ~90% fines, ~10% fine sand,	_1					
	-							Ш	trace shells, olive-brown.	Refusal at 3.0'. Silt					
	- 4 - 1	i							End of Boring at 3 feet	observed in tip of core barrel. Sheen observed on water in core.					
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ooundario	es betweer	nt the appro n soil types. ater level re	. Actual tra			NT: NSTA			No. D. K. Jan.	GEI Consultants, Inc.					
nade at t		d. Water le			1	STATE: _	*****		New Bedford Service Center	400 Unicorn Park Drive Woburn, MA 01801					
						ROJECT				ultants 781-721-4000					





Bori	ng Loc	ation					· · · · · · · · · · · · · · · · · · ·			BORING
HOR	IZONTA	L DATU	M: NA	D8	3 MA Ma	inland Zon	e GRO	OUN	D SURFACE ELEVATION (FT):	
1		248373.							NG: 820254.27	T75-7
LOC	ATION:	Outer	Slip							PAGE 1 of 1
Drilli	ng Info	ormatio	n		<u>-</u> .					
			_	0 -	4/22/2010				TOTAL DEPTH (FT): 4.0	
				_	al, Inc.	DRILLE earch vesse		Perro	LOGGED BY: B. Carlson	
1		: N/A /		all	iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii			3.:	BORING METHOD: Vibracore 5 in / 3.5 in	
		PE: N/A						HT (I	bs): N/A HAMMER DROP (Inch): N/A	
1		DIMENT (899 2:23 pm			·	
		\$: ID =	Inside Diar	nete	er l			mple	WOH = Weight of Hammer NA, NM = Not Applicable, Not Me	
		Pen.	Outside D = Penetrat = Recover	ion	Length S	C = Rock Core S = Split Spoor DP = Direct Pu	n		OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor	or
			SAM	PLI	E INFORI	MATION	_	90		
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Туре	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC LOG	Sample Description & Classification	Remarks
		S1	0	H	4.0 / 3.0	75.	2.5 ppm		0.0-2.5': SILT (ML); ~90% fines, ~10% fine sand.	ļ
	-	0.	to 4		4.070.0	75.	2.0 pp///		shells near top, very loose, one live red flatworm, black.	Ε.
	-		7	H					DIACK.	
	-			Ш					\$0	
	_ 2					l				
	-	S2					1.1 ppm	Ш	2.5-2.8': SANDY SILT (ML); ~70% fines, ~20% fine	_
	<u> </u>	S3				 	S3 and S4: 3.4		to coarse sand, ~10% gravel <1/2", loose, black. 2.8-3.3': SANDY SILT (ML); ~65% fines, ~35% fine]
	ļ ,	S4					ppm		sand, loose, grey-brown. 3.3-4.0': WIDELY GRADED SAND WITH SILT]
	4			П					(SW-SM); ~90% fine to coarse sand, ~10% fines,	Refusal at 4.0'. Sand and gravel observed in tip of
									tan-grey.	core barrel.
	_								End of Boring at 4 feet	
	- 6									
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boundari	es betwee	ent the appropriate the soil types	. Actual tra	nsiti		NT: NSTA				GEI Consultants, Inc.
made at		ater level re ed. Water le nes.			1	STATE:			New Bedford Service Center	400 Unicorn Park Drive Woburn, MA 01801
amor or it	0.101 (11)					ROJECT N				781-721-4000



Bori	ng Lo	cation									BORING
			JM: NA	D83	MA Ma	inland Zon	e GRO	DUN	SURFACE ELEVATION (FT):		
		248376.					_		NG: 820287.20		T100-2
LOC	ATION	Outer	Slip		5787		-8 Tr				PAGE 1 of 1
DATE	START	ormation (END: OR: CR Lophiu	4/22/201 Environme	ental,	inc.			Perro	TOTAL DEPTH (FT LOGGED BY: B. BORING METHOD:	Carlson	_
HAMN	MER TY	D: <u>N/A /</u> PE: <u>N/A</u> EDIMENT	١	16.5	12/30/1		R WEIGI		in / 3.5 in ps): N/A HAMMER DROP (in		_
GENE	RAL N	OTES: _[Density = 8	39.8 II	bs/ft ³						
ABBRI	EVIATIO	OD = Pen.	Inside Dian Outside D = Penetrati = Recovery	iamete ion Ler	er (ngth S	U = Undistrube C = Rock Core S = Split Spoor DP = Direct Pu	1			ot Applicable, Not Mea: gen Sulfide Like Odor	sured
			SAMI	PLE	INFOR	MATION	_	10G	_		
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Туре	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC	Sample Description & Classification	š	Remarks
	_	S1 S2	to 2	2	2.0 / 2.0	100.	1.0 ppm 13.7 ppm	Ш	0.0-0.7': SILT WITH SAND (ML); ~85 fine to coarse sand, loose, wood, shell 0.7-2.0': SHELLS WITH SAND AND crushed shells, ~25% fine to coarse s	ils, black. SIL T ; ~50%	
	-							¥ . 3	fines, black.	and, -2576	
	- 2 - -				:				End of Boring at 2 feet		Refusal at 2.0'. Sand, gravel, and shells with slight PLO observed in tip of core barrel. Sheen observed on water in
	- 4 -										core.
	-						į				
	- 6 -										
	- 8		į	ļ							
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	— 10 -										
	- - 12										
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	- - 14 -										
oundarionay be g nade at t	es betwe radual. V times stat	ent the apprent soil types vater level red. Water le	. Actual tran	e been	PROJ		E: NS		New Bedford Service Center		GEI Consultants, Inc. 400 Unicorn Park Drive
lifferent a	at other ti	mes.				STATE:! ROJECT N		Consultant	Woburn, MA 01801 5 781-721-4000		

Danis		-41												
	ng Loc									BORING				
l				\D83	3 MA Ma	inland Zon	e GRC	DUN	SURFACE ELEVATION (FT):	T100-3				
EAST	ring: _	248369.	05				_ NOF	RTHI	NG: 820278.68					
LOC	ATION:	Outer	Slip		_					PAGE 1 of 1				
Drilli	ng Info	rmatio	<u>n</u>											
					/22/2010				TOTAL DEPTH (FT): 4.9					
		R: CR					R: <u>E. I</u>	Perro						
		Lopniu: N/A /		t alur	minium res	earch vessel		3 /	BORING METHOD: Vibraco	re				
l		E: N/A							ps): N/A HAMMER DROP (inch): N/A	4				
			(ft): <u></u>	15.7	7 12/30/1	899 10:59 an	n							
	RAL NO		lasida Dia				177.1							
ABBREVIATIONS: ID = Inside Diameter OD = Outside Diameter OD = Outside Diameter Pen. = Penetration Length Rec. = Recovery Length OD = Direct Push Sample OD = Direct Push Sample OD = Outside Diameter Pen. = Penetration Length Rec. = Recovery Length OD = Direct Push Sample OD = Naphthalene Like Odor NLO = Naphthalene Like Odor NLO = Naphthalene Like Odor OD = Outside Diameter OD = Rec. = Recovery Length OD = Direct Push Sample OD = Naphthalene Like Odor NLO = Naphthalene Like Odor OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter OD = Petroleum Like Odor NLO = Naphthalene Like Odor NLO = Naphthalene Like Odor OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter OD = Rec. = Recovery Length OD = Outside Diameter O														
			SAM	PLE	INFORI	MATION		18						
Elev.	Depth				Dan (B4	F* . 1 .1	13	Sample					
(ft)	(ft)	Sample No.	Depth (ft)	Type	Pen./ Rec.	Percent Recovered	Field Test	GRAPHIC	Description & Classification	Remarks				
		NO.	(11)		(ft)	(%)	Data	8	Gladomoalion	<u>=</u>				
	,		0	\top	4.9 / 0.8	16.3	NM		Did not classify.					
	-		to 4.9											
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	- 4													
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	-									Refusal at 4.9'. Sheen				
	-								End of Boring at 4.9 feet	observed on core barrel. Coal tar observed in core.				
	— 6									Strong NLO.				
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Strata line	es represe	nt the appro	oximate		CLIE	NT: NSTA	.R			GEI Consultants, Inc.				
may be g	radual. Wa	n soil types ater level re	adings hav	ve bee				AR	New Bedford Service Center	400 Unicorn Park Drive				
different a	imes state at other tin	d. Water le les.	veis may D	e		STATE: _1				Woburn, MA 01801				

GEI PROJECT NUMBER: 10092-0





Consultants 781-721-4000

		cation										 	BORING
									D SURFACE ELEV	ATION (FT):			T100-3A
							_ NO	RTHI	NG: 820283.66	···			PAGE 1 of 1
		Outer											
		ormatio		0 - 4/2	2/2010				_	TOTAL DEPTH	I (FT): 4.5		
CONT	RACTO	R: CR	Environme	ental, I	nc.				ne	LOGGED BY:	B. Carlson		-
		D: N/A/			nium res	earch vessel		3.	5 in / 3.5 in	BORING METH	IOD: Vibraco	ore	
		PE: N/A	١			HAMME	R WEIG		bs): N/A	HAMMER DRO	P (Inch): N/	Α	_
		OTES: _[899 11:11 am	1						
ABBR	EVIATIO	OD = Pen.	Inside Dian Outside D = Penetrati = Recovery	iameter ion Leng	gth S	U = Undistrube C = Rock Core S = Split Spoor DP = Direct Pu	1		WOH = Weight of Hamr OVM = Organic Vapor M PLO = Petroleum Like O NLO = Naphthalene Like	Meter H2S = I Odor	1 = Not Applicable Hydrogen Sulfide		sured
			SAMI	PLE II	NFOR	MATION		100		8.			
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	ו שו	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC L	1	Sample Description 8 Classification		,	Remarks
	-	S1	0 to 4.5	4.	5 / 2.5	55.6	NM	\$ \$	0.0-2.3': SHELLS shells, ~15% fine slight NLO, black.	to coarse, sand	-85% crushed , bricks, reeds	1	Collected composite sample from 0-3.6'.
	_ 2	S2	,				NM	*	2.3-3.6 ¹ : SILTY S/ fines, ~35% fine to	o coarse sand,	~25% fine grav	vel	
	- 4	S3			į		NM		mostly <1/8" but u black. 3.6-4.5': WIDELY	GRADED GRA	VEL (GW): ~9	0%	
								<u> </u>	gravel mostly <1/4 ~5% fines, loose,	brown.	-5% coarse sa	na,	
	<u> </u> -								End of Boring at 4	.5 feet			Refusal at 4.5'. Slight NLO noted on gravel in tip of core barrel.
	<u> </u>	ı								*		-	
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		ent the appr en soil types		sitions	CLIE	NT: NSTA	 .R	Щ.					GEI Consultants, Inc.
nay be g nade at	radual. V	vater level re ed. Water le	adings have	e been		IECT NAME STATE: N			New Bedford Serv	ice Center			400 Unicorn Park Drive Woburn, MA 01801
						ROJECT N					GEI!	Consultant	3 781-721-4000

Bori	ng Loc	ation								BORING
			IM: NA	AD83	3 MA Ma	inland Zone	e GRO	DUN	D SURFACE ELEVATION (FT):	2014110
ı		248376.							NG: 820275.97	T100-4
	_	Outer								PAGE 1 of 1
		rmatio	_							
		/ END:		10 - 4	/22/2010				TOTAL DEPTH (FT): 7.5	
		R: CR				DRILLE	R: <u>E</u> .	Perro		
		Lophiu N/A /		t alur	ninium res	earch vessel			BORING METHOD: Vibracore	·
		E: N/A							5 in / 3.5 in bs): N/A HAMMER DROP (Inch): N/A	
						899 11:54 am				
	RAL NO	TES: _C	ensity =			I a l la dista ha	47.5.0		WOLL	
ADDR	EVIATION	OD = Pen.	Outside [= Penetra = Recover	Diame	ter (WOH = Weight of Hammer OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor				
			SAM	PLE	INFORI	MATION		LOG		
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Туре	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC L	Sample Description & Classification	Remarks
		S1	0	H	7.5 / 4.2	_ · · _]	NM	,	0.0.2.0% CHELL CIMITH CAND AND CILT. 000/	
	-	31	to	Ш	1.514.2	30.	14141	♦	0.0-2.9': SHELLS WITH SAND AND SILT; ~90% shells, ~5% fine to coarse sand, ~5% fines, brick	Collected composite sample from 0-3.9'.
	-		7.5					☆	fragments, sheen, black.	
	-			Ш				♦		
	- 2]		∤ 3		
	-			Н				* ;		
	iii	S2					NM	Î	2.9-3.9': SILT (ML); ~90% fines, ~10% fine to coarse sand, reeds, NLO, brown-black.	
	- 4	S3					NM		3.9-5.9': WIDELY GRADED GRAVEL (GW); ~90% gravel mostly <1/4" but up to 0.2', ~5% fine to coarse	
	-								sand, ~5% fines, orange-brown.	
	_									
	- 6	S4					NM		5.9-7.5': WIDELY GRADED SAND (SW); ~90% fine to coarse sand, ~10% fine gravel less than 1/4".	
									NLO, sheen, black.	
						1				
	_ 8								End of Boring at 7.5 feet	Refusal at 7.5'. Coal tar observed on cobbles in tip
ļ	_								Line of Borning at 1.5 loot	of core barrel.
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boundarie	as between	nt the appro	Actual tra	ınsitio	CLIE	NT: NSTA	R			GEI Consultants, Inc.
liane at t	radual. Wa imes state at other tim	u. Tratel le	adings hav vels may b	ve bee	,	IECT NAME State: N			New Bedford Service Center	400 Unicorn Park Drive Woburn, MA 01801
anerent i	ar onlet filt					ROJECT N				781-721-4000

	_	ation										BORING
HORI	ZONTA	L DATU	M: <u>NA</u>	D8	3 MA Ma	inland Zon	e GRC	UN	D SURFACE ELEV	ATION (FT):		T400 F
EAS1	ING: _	248377.	83				_ NOR	THI	NG: 820270.63			T100-5
LOCA	ATION:	Outer :	Slip							-		PAGE 1 of 1
Deilli	na Infe	ormatio	n									
				0 -	4/23/2010					TOTAL DEPTH (F1	n. 20	
		R: CRI				DRILLE	R: E. I	Perro	ne	LOGGED BY: B		_
						earch vessel				BORING METHOD		_
AUGE	R ID/OD	: N/A /	N/A			CASING	ID/OD:	3.	5 in / 3.5 in			
		E: <u>N/A</u>						HT (H	bs): N/A	HAMMER DROP (i	nch): N/A	_
						899 9:31 am						
		TES: []		_		U = Undistrube	d Tube Sa	mole	WOH = Weight of Hamm	or NA MM - M	ot Applicable, Not Mea	
		OD = Pen.	Outside D = Penetrat = Recover	iam ion l	eter (Length (C = Rock Core S = Split Spoor DP = Direct Pu	ז		OVM = Organic Vapor M PLO = Petroleum Like O NLO = Naphthalene Like	eter H2S = Hydro dor	ogen Sulfide Like Odor	
		1	SAM	DI 1	E INFORI	MATION		G				
			OAIVI.		_ 1141 OKI	TION TON		GRAPHIC LOG		Sample		
Elev. (ft)	Depth (ft)	Sample	Depth	8	Pen./	Percent	Field	呈		Description &		Remarks
()	(,	No.	(ft)	Type	Rec. (ft)	Recovered (%)	Test Data	8		Classification		
		S1	0	Н	3.0 / 2.0	66.7		Ö	0.0.001.011.7.14/17	IL CAND (MI)	201 5 4 701	
	_	31	to	П	3.072.0	00.7	0.7 ppm		fine to coarse sand	H SAND (ML); ~85 d, shells, loose, bla	ગ% πnes, ∼15% ck.	
	_	S2	3	Н		1	2.5 ppm	Щ,	0.0.2.01.01.51.1.0.1	AUTH CAND AND	OII T. 050/	
		32		Ш			z.ə ppm	, ¢	crushed shells, ~3	WITH SAND AND 0% fine to coarse s	SIL1; ~65% sand. <5%	
								(*)	fines, black.		,	
	_ 2							ø,				
	-			Ì]		P				
	-							<u>⊁ ⊀</u>	<u> </u>	_		Refusal at 3.0'. Slight
	-			Н					End of Boring at 3	feet		sheen observed on water
	– 4					İ İ						in core, but sheen does not appear to be
	_											associated with collected
	_											sediment.
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boundarie	es betwee	nt the appro	Actual tra			NT: NSTA						GEI Consultants, Inc.
may be g	radual, Wa	ater level re	adings hav	e be	PROJ				New Bedford Servi	ce Center		400 Unicorn Park Drive
	at other tin		•		CITY	STATE: _	New Bed	dforc	I, MA			Woburn, MA 01801

GEI PROJECT NUMBER: 10092-0





		cation									BORING
							e GRC	OUN	D SURFACE ELEVATION (FT):		T495 4
		248382.					_ NOF	RTHI	NG: 820289.95	-	T125-1
LOC	ATION:	Outer	Slip								PAGE 1 of 1
DATE	START	ormatio	4/22/201 Environm	ental,	Inc.	DRILLE		Perro	ne LOGGED BY:	H (FT): _2.0 _B. Carlson	
		<u>Lopniu</u> D: N/A /		alum	inium res	search vesse		3.	5 in / 3.5 in	HOD: Vibracore	
HAM	MER TY	PE: N/A	١			HAMME	ER WEIGI			OP (inch): N/A	-
		EDIMENT OTES: (899 3:10 pm					-
	EVIATIO	VS: ID =	Inside Diar	neter				mple		M = Not Applicable, Not Me	
		Pen.	= Outside D = Penetrat = Recover	tion Ler y Leng	ngth (C = Rock Core S = Split Spoor DP = Direct Pu	n		OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor	Hydrogen Sulfide Like Odo	r
			SAM	PLE	INFOR	MATION	·	907	0		
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Туре	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC	Sample Description of Classificatio		Remarks
	-	S1	to 2	2	2.0 / 2.0	100.	5.6 ppm	\$;	0.0-1.4': SHELLS WITH SAND A whole shells, ~30% fine to coarso loose, trace wood, black.	ND SILT; ~60% e sand, ~10% fines,	
	- - 2	S2					0.2 ppm	\$ \$	1.4-2.0': SHELLS WITH SAND A	ND SILT; ~85% rse sand, ~5%	
	-								fines, trace reeds, black. End of Boring at 2 feet		Refusal at 2.0'.
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itrata lin	es repres	ent the appr en soil types	oximate	neitica	CLIF	NT: NSTA	 \R				GEI Consultants, Inc.
nay be g nade at 1	radual. W times stat	/ater level re ed. Water le	adings hav	e been	PROJ	JECT NAMI	E: NST		New Bedford Service Center		400 Unicorn Park Drive
	at other tir		-			STATE:! PROJECT N				GEI	Woburn, MA 01801 nts 781-721-4000
					19-11		, JIVIDER	·· —	000E-0	Consultar	10 101-121-4000

Bori	ng Lo	cation								BORING
									D SURFACE ELEVATION (FT):	T125-3
	-	248384.					_ NOI	RTHI	NG: 820280.30	PAGE 1 of 1
		Outer	•					_		PAGE 1 UI I
		ormatio	9 n 4/22/2010	0 - 4/22	2/2010				TOTAL DEPTH (FT): 7.0	
CONT	TRACTO	R: CR	Environme	ental, Ir	nc.	DRILLE		Perro	ne LOGGED BY: B. Carlson	<u> </u>
			s: 26-foot N/A			search vessel CASING		3./	BORING METHOD: Vibracore 5 in / 3.5 in	
HAM	MER TYP	PE: N/A	<u> </u>			HAMME	R WEIG		bs): N/A HAMMER DROP (inch): N/A	
			(ft): <u> </u>			899 11:34 am	1			
ABBR	EVIATION	OD = Pen.	Inside Diam Outside Di Penetrati Recovery	iameter ion Leng	gth S	U = Undistruber C = Rock Core S = Split Spoon DP = Direct Pus	n		WOH = Weight of Hammer OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor	
			SAMF	PLE IN	NFORI	MATION		Tg		T
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	<u>Š</u> F	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC LOG	Sample Description & Classification	Remarks
	-	S1	0 to 7	7.0	0/4.0	57.1	NM	***	0.0-2.3': SHELLS WITH SAND AND SILT; ~90% shells, ~5 % fine to coarse sand, ~5% fines, bricks, loose, NLO, sheen, black.	Collected composite sample from 0-7.0'.
	<u> </u>	S2 S3				,	NM NM		2.3-2.7': SILT WITH SAND (ML), ~55% fines, ~45% fine to coarse sand, shells, loose, sheen, NLO, brown-black. 2.7-3.6': SHELLS WITH SAND AND SILT; ~90%	_
ı	4	S4					NM	*	shells, ~5 % fine to coarse sand, ~5% fines, bricks, loose, NLO, sheen, black. 3.6-5.7': SILT (ML); ~90% fines, ~10% fine to coarse sand, reeds, sheen, NLO, brown-black.	
	_ 6	S5 S6					NM NM		5.7-6.2': WIDELY GRADED SAND (SW); ~95% fine to coarse sand, ~5% fines, sheen, NLO, brown-black. 6.2-7.0': WIDELY GRADED SAND (SW); similar to	<u></u>
	- 8								5.7-6.2', but sediment and sleeve stained black. End of Boring at 7 feet	Refusal at 7.0'. Sand and gravel and coal tar observed in tip of core barrel.
	- - 10									
	12 									
	- - 14 -									ė
ooundario nay be g nade at t	es betwee gradual. W	/ater level re ed. Water le	oximate s. Actual tran eadings have evels may be	e been	PROJ	NT: NSTA JECT NAME STATE: N	E: NS			GEI Consultants, Inc. 400 Unicorn Park Drive Woburn, MA 01801
					GEI P	ROJECT N	IUMBE	R: _1	10092-0 Consul	781-721-4000

Bori	ng Lo	cation								BORING
									D SURFACE ELEVATION (FT):	T125-5
		248386.					_ NOI	RTHI	NG: 820269.88	PAGE 1 of 1
		Outer								
		ormatio		0 - 4/2	2/2010				TOTAL DEPTH (FT): _5.0	
		OR: CR				DRILLE search vesse		Perro	ne LOGGED BY: B. Carlson	
AUGE	R ID/O	D: <u>N/A /</u>	N/A	i				3.	BORING METHOD: Vibracore 5 in / 3.5 in	
		PE: <u>N/A</u> Ediment				HAMME 899 1:55 pm		HT (I	bs): N/A HAMMER DROP (inch): N/A	
GENE	RAL N	OTES: [Density =	127.9 I	bs/ft ³					
ABBK	EVIATIO	Pen.	Inside Diar Outside D = Penetrat = Recover	iameter	gth :	U = Undistrube C = Rock Core S = Split Spoo DP = Direct Pu	1		WOH = Weight of Hammer OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor	
			SAM	PLE I	NFOR	MATION		9		
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)		Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC LOG	Sample Description & Classification	Remarks
	-	S1 S2	0 to 5	5.	0 / 3.1	62.	S1 and S2: 5 ppm	*	0.0-1.3': SHELLS WITH SAND; ~90% shells, ~10 fine to coarse sand, H2S odor, black.	% Collected composite sample from 0-4.0'.
	ŀ	S3					S3 and	m	1.3-2.0': SILT WITH SAND (ML); ~80% fines, ~20	%
	<u> </u>	S4 S5					S4: 4.5 ppm 13.5 ppm		fine to coarse sand, loose, shell fragments, black. 2.0-2.7': WIDELY GRADED SAND (SW); ~100%	
	-	S6					51 ppm		fine to coarse sand, slight NLO, tan-brown. 2.7-2.8': SILT (ML); ~90% fines, ~10% fine to coar	50 (
		S7					197 ppm	⇔ } 3	sand, loose, slight NLO, brown-black. 2.8-3.5': SHELLS WITH SAND; ~80% shells, ~20	- 11
	_ 4								fine to coarse sand, black. 3.5-4.6': WIDELY GRADED SAND (SW); ~100%	<u></u>
	<u> </u> -								fine to coarse sand, slight NLO, small stringers of tar, tan-brown.	
	-		-					••••	4.6-5.0': WIDELY GRADED SAND (SW); ~100% fine to coarse sand, NLO, sheen, free product.	Refusal at 5.0'. Sand and
	6								tan-brown where there is no tar but mostly stained dark brown.	gravel and coal tar blebs observed in tip of core barrel.
	_								End of Boring at 5 feet	Darrei.
	-	f								
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		ent the appr			101 15	NT. NOT			_	CEI Compulsor to
oundari nay be g	es betwe radual. V	en soil types Vater level re ed. Water le	. Actual trai	e been	PRO.		E: NS		New Bedford Service Center	GEI Consultants, Inc. 400 Unicorn Park Drive
	at other ti		, 0			STATE: _! ROJECT N				Woburn, MA 01801 sultants 781-721-4000
					J 1			· ``		Suitants 101-121-4000

Borii	ng Loc	ation				<u>.</u> .				BORING
—			IMI· NA	ארוא	3 MA Ma	inland Zon	≏ GRO	ואנור	D SURFACE ELEVATION (FT):	BURING
Į		248393.			0 100 (1010				NG: 820282.72	T150-2
ı	_	Outer								PAGE 1 of 1
<u> </u>		ormatio						_		
				10 -	4/23/2010				TOTAL DEPTH (FT): 2.0	
CONT	RACTO	R: CR	Environm	enta	al, Inc.	DRILLE	R: <u>E</u> .	Perro		<u> </u>
i .		Lophiu:		t alu	minium res	search vesse		2	BORING METHOD: Vibracore	
l .		E: N/A				•		_	bs): N/A HAMMER DROP (inch): N/A	
l .						899 9:01 am				N .
	RAL NO		ensity =	_		U = Undistrube	d Tube Sa	mple	WOH = Weight of Hammer NA, NM = Not Applicable, Not Me	acurad
		Pen.	Outside [= Penetra = Recover	tion I	eter (Length \$	C = Rock Core S = Split Spoor DP = Direct Pu	n		OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor	
			SAM	PLI	E INFOR	MATION		200		
Elev.	Depth	Sample	Donth		Pen./	Percent	Field	일	Sample Description &	Remarks
(ft)	(ft)	No.	Depth (ft)	Type	Rec. (ft)	Recovered (%)	Test Data	GRAPHIC	Classification	Komana
		S1	0	H	2.0 / 2.0		1.8 ppm		0.0-0.5': NARROWLY GRADED GRAVEL WITH	Calle start annuality
	_	S2	to 2	И	2.072.0	100.	S2 and	10/	SAND (GP); ~65% fine gravel < 1-4", ~35% fine to	Collected composite sample from 0-1'.
	_	S3 S4		N			S3: 66.3 ppm		coarse sand, shells, black. 0.5-0.7': NARROWLY GRADED GRAVEL WITH	Very slight sheen on water after we isolated the
	-	34		N			0.3 ppm		SAND (GP); similar to 0.0-0.5', but with taffy-like tar and NLO.	tar and exposed it to surface water.
	_ 2								0.7-1.0': NARROWLY GRADED GRAVEL WITH	Refusal at 2.0'.
	-					İ			SAND (GP); similar to 0.0-0.5'. 1.0-2.0': WIDELY GRADED SAND (SW); ~100%	Nordour de 2.0 .
	_								fine to coarse sand, brown.	
	-			П					End of Boring at 2 feet	
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Strata line	as renres	nt the appro	nvimete							
boundarie may be g	es betwee radual. W	n soil types. ater level re	. Actual tra adings hav	ve be		NT: <u>NSTA</u> JECT NAMI		ΓΔP	New Bedford Service Center	GEI Consultants, Inc. 400 Unicorn Park Drive
made at t	imes state at other tin	u. Watel ic	vels may b	е		STATE:				Woburn, MA 01801
						ROJECT				nts 781-721-4000

	ng Loc										BORING
									O SURFACE ELEVATION (FT):		T150-3
	_	248393. Outer					_ NO	Rimi	NG: 820283.04	- -	PAGE 1 of 1
Drill	ing Inf	ormatio	n_		32210						
		/END: R: CR				DRILLE	R: _E.	Perro	TOTAL DEPTH (FT): ne LOGGED BY: B. (_
		Lophiu N/A /				search vessel			BORING METHOD:		
HAMI	MER TYP	PE: N/A				HAMME	R WEIG	_	os): N/A HAMMER DROP (inc	:h): N/A	
		DIMENT (899 1:41 pm					<u> </u>
	EVIATION	iS: ID = OD = Pen.	Inside Dian Outside D = Penetrati = Recoven	neter liameter ion Leng	r (gth \$	U = Undistrube C = Rock Core S = Split Spoor DP = Direct Pu	1			Applicable, Not Mea en Sulfide Like Odor	sured
			SAMI	PLE II	NFORI	MATION		8			
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Ψ.	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC LOG	Sample Description & Classification		Remarks
	-	S1	0 to 8	8.0	0 / 4.5	56.3	NM	\$;	0.0-0.9': SHELLS WITH SAND AND SI shells, ~20 % fine to coarse sand, ~5% sheen, NLO, black.	fines, loose,	Collected composite sample from 0-6.2'.
	_ 2	S2					NM		0.9-6.2': SILT WITH SAND (ML); ~85% fine to coarse sand, reeds, shells, blebs tar saturated veins, tar stained sleeve,	s. NLO. some	
	_								9		
	_ 4										
										,	
	6				·			;			
	_	S3	:				NM		6.2-8.0': POORLY GRADED SAND (SE coarse sand, slight NLO, tan-brown.	P); 100%	
	_ 8						12		ч		
	-								End of Boring at 8 feet		Refusal at 8.0'. Sand and gravel observed in tip of core barrel. NLO and sheen observed on core barrel.
	— 10 - -										
	- - 12	·	į	i							
	-										
	- - 14 -									,	
		ent the appro n soil types.		nsitions	CLIE	NT: NSTA	R				GEI Consultants, Inc.
nade at	times state	ater level re ed. Water le nes.			1				New Bedford Service Center MA		400 Unicorn Park Drive
erent	at other tin	nes.			ľ	'STATE: <u>N</u> 'ROJECT N				Consultant	Woburn, MA 01801 s 781-721-4000





BORNO T150-4 PAGE 1 of 1 PAGE 1 of 1 PAGE 1 of											
EASTING: 24391.34 LOCATION: Outer Slip DATE STATE / SND: 4232010 - 4220010 DATE STATE / SND: 4232010 DATE STATE / SND: 42320											BORING
December December	HOR	ZONTA	L DATU	IM: <u>N</u> A	ND8	3 MA Ma	inland Zon	e GRC	UN	D SURFACE ELEVATION (FT):	T450: 4
DIATE START I RING:G2320104232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010 DATE START I RING:G232010_4232010 DATE START I RING:G232010 DATE START I RING:	EAST	TING: _	248391.	84				_ NOR	TH	NG: 820264.14	1150-4
DATE STATE FROM CONTRACTOR CRESTORMENTH C. DRILLER E. Perrore LOGGED 97 S. Cattleron	LOC	ATION:	Outer	Slip							PAGE 1 of 1
CONTRACTOR: CR Environmental Inc. CR	Drilli	ng Info	rmatio	n							
EQUIPMENT Lephins 26 foot aluminum research vessel AN / INA CASIN GIDOD: 3.5 in T. S. I			-	_							
AUGERIOD: NA/A NA HAMMER TYPE: NS HAMMER TYPE:							•	_	ern		
DEPTH TO SEDMENT (No. 2 - 19-a) 2- 20 JOINT STAR New Bedford Service Center (No. 2) - 12- 2	1				· uiu	minut i co			3.		· · · · · · · · · · · · · · · · · · ·
GENERAL NOTES: Dender year \$2.0 benefit ABBREWATIONS: ID - Indice Dender Level Property of the Community of	HAMN	IER TYP	E: N/A				НАММЕ	ER WEIGH	IT (bs): N/A HAMMER DROP (inch): N/A	<u> </u>
ABBREVIATIONS: ID = Index Dameter Por = Percentation Length Por = Perc							899 9:17 am				
Objective Preventation Length Price - Recovery Length Price - Preventation Length Recoverable Length Reco							I = I Indistrub	ed Tube Sa	mole	WOH = Weight of Hammer NA NIM = Not Applicable Not Me	
Elev (ft) (ft) (ft) (sample Depth No. Percent Feet Set Secure Set Secure Set			OD = Pen.	Outside [= Penetra	Diame tion L	eter (Length S	C = Rock Core S = Split Spoo	e n	•	OVM = Organic Vapor Meter H2S = Hydrogen Sulfide Like Odor PLO = Petroleum Like Odor	
Elev (ft) (ft) (ft) (sample Depth No. Percent Feet Set Secure Set Secure Set				SAM	PLE	INFOR	MATION		ဗ္ဗ		T
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Size to a size of the second of the state of			110.	"	ľ	(ft)	(%)	Data	GR.		
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Ppm Date Date Date Date Date Date Date Date Date Date Date Date Date Date Dat			S2		Н		}			crushed shells, ~10% fine to coarse sand, ~5% fines, black.	
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End of Boring at 8 feet Refusal at 8.0'. Sand and gravel with NLO and sheen observed in tip of core barrel. Very slight sheen observed on water in core. 12		-									
End of Boring at 8 feet Refusal at 8.0'. Sand and gravel with NLO and sheen observed in tip of core barrel. Very slight sheen observed on water in core. 12		-									
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Strata lines represent the approximate — 12 — 14 — 14 — 14 — Strata lines represent the approximate in core. CLIENT: NSTAR PROJECT NAME: NSTAR New Bedford Service Center data times stated. Water levels may be gridfullar. Water level smay be different at other times. GEI Consultants, Inc. 400 Unicorn Park Drive Woburn, MA 01801		-				-				End of Boring at 8 feet	gravel with NLO and
Strata lines represent the approximate Lack the strength of t	}	-									
Strata lines represent the approximate 12 14 15 CLIENT: NSTAR PROJECT NAME: NSTAR New Bedford Service Center CITY/STATE: New Bedford, MA GEI Consultants, Inc. 400 Unicorn Park Drive Woburn, MA 01801		-						- 1			sheen observed on water
Strata lines represent the approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at times stated. Water levels may be different at other times. CLIENT: NSTAR PROJECT NAME: NSTAR New Bedford Service Center CITY/STATE: New Bedford, MA CLIENT: NSTAR Woburn, MA 01801]	- 10									in core.
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	may be g made at t	radual. Wa imes state	ater level re d. Water le	adings ha	ve be	PROJ					
	different a	at other tim	les.								



Bori	ng Loc	ation		_						BORING
1			IM: NA	D8	3 MA Ma	inland Zon	e GRO	UNI	D SURFACE ELEVATION (FT):	
1		248394.							NG: 820265.96	T150-6
FOC	ATION:	Outer	Slip							PAGE 1 of 1
		ormatio					,			
1		/END: R: CRI			4/22/2010		R: E. I	Perro	TOTAL DEPTH (FT): _6.5 ne	
EQUIF	PMENT:	Lophiu	s: 26-foot			search vesse			BORING METHOD: Vibracore	
ı): <u>N/A /</u> PE: N/A				•			5 in / 3.5 in bs): N/A HAMMER DROP (Inch): N/A	
DEPT	H TO SE	DIMENT	(ft): <u></u>			899 2:09 pm			TAMBLE PROF (IIII). 14A	
	RAL NO	TES:	Density = : Inside Diar	_		U = Undistrube	ed Tube Sa	mple	WOH = Weight of Hammer NA, NM = Not Applicable, Not Me	asured
		Pen.	Outside D = Penetrat = Recover	ion I	eter (Length (C = Rock Core S = Split Spoo DP = Direct Pu	n		OVM = Organic Vapor Meter PLO = Petroleum Like Odor NLO = Naphthalene Like Odor	osti du
			SAM	PLI	E INFOR	MATION		90		
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Type	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC LOG	Sample Description & Classification	Remarks
	_ _ _ _ 2	S1 S2	0 to 6.5		6.5 / 4.2	64.6	S1, S2, and S3: 2.6 ppm		0.0-0.6': WIDELY GRADED SAND WITH SILT AND SHELLS (SW-SM); ~50% fine to coarse sand, ~25% fines, ~25% shells, loose, plastic fragments, black. 0.6-2.0': SILT (ML); ~90% fines, ~10% fine to coarse sand, loose, trace shells, black.	
	- 4	S3 S4					S4 and S5: 9.8 ppm	\$ 	2.0-2.5': SHELLS WITH SAND AND SILT; ~60% crushed shells, ~30% fines, ~10% fine to coarse sand, loose, black-brown. 2.5-4.5': SILT (ML); ~90% fines, ~10% fine to coarse sand, loose, shell fragments, black.	
	- 6	S5 S6 S7			İ		7.8 ppm 14.9 ppm		4.5-4.8': SHELLS WITH SAND AND SILT; ~80% crushed shells, ~15% fine to coarse sand, ~5% fines, reeds, loose, black. 4.8-5.9': SILT (ML); ~90% fines, ~10% fine to coarse sand, loose, black. 5.9-6.5': SILT (ML); ~95% fines, ~<5% fine sand, loose, gray brown.	
	- 8 - 10 - 12 - 12 - 14								loose, grey-brown. End of Boring at 6.5 feet	Refusal at 6.5'. Sand and gravel with NLO observed in tip of core barrel.
boundarie	es betwee	ent the appro n soil types. ater level re	. Actual trai	nsitio		NT: NSTA			New Port of the Control of the Contr	GEI Consultants, Inc.
made at t		d. Water le				JECT NAM STATE:!			New Bedford Service Center	400 Unicorn Park Drive Woburn, MA 01801
amorei II. è	a. vuici iili					ROJECT N				wodurn, MA 01801

Bori	ng Loc	ation					-			BORING
			INI- NA	אַרוי	ıα MΔ Ma'	inland Zon	a GRO	MIN	D SURFACE ELEVATION (FT):	DURING
1		248413.				mand Zon			NG: 820287.81	T175-3
1	_	Outer					1101		NG. 020207.81	PAGE 1 of 1
				_						
		ormatio / END:	_	i0 -	4/22/2010				TOTAL DEPTH (FT): _ 3.0	
1		R: CR				DRILLE	R: _E.	Регго		
				alu	minium res	search vessel			BORING METHOD: Vibracore	
1		: <u>N/A /</u> PE: N/A							5 in / 3.5 in	
1				18.	5 12/30/1	899 3:37 pm			TANKET DIGIT (HOIL). MAX	
		TES: D							WOH = Weight of Hammer NA, NM = Not Applicable, N	
ABBR	EVIATION	ot Measured e Odor								
			SAM	PLE	E INFORM	MATION		90	=	
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Type	Pen./ Rec. (ft)	Percent Recovered (%)	Field Test Data	GRAPHIC LOG	Sample Description & Classification	Remarks
	ĺ	S1	0 to	Ħ	3.0 / 2.0	66.7	33.4 ppm		0.0-1.8': SILT (ML); ~90% fines, ~10% fine sand,	
	<u> </u>		3		0.04				loose, shells, brown-black.	
				Н						
	_ 2	S2					111 ppm	Щ,	1.8-3.0': SHELLS WITH SAND AND SILT AND	
								* ;	GRAVEL; ~80% crushed shells, ~10% fine to coal sand, ~5% fines, ~5% gravel <1", brick fragments brown-black.	
	- 4 								End of Boring at 3 feet	Refusal at 3.0' on cobbles and gravel. NLO, tar, and sheen observed in cobbles and gravel in tip of core barrel. Very slight sheen observed on water on core.
	- - 6									
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	- 8 -	3								
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boundarie	es betwee	ent the appr n soil types	. Actual tra			NT: NSTA				GEI Consultants, Inc.
made at t	imes state	ater level re ed. Water le							New Bedford Service Center	400 Unicorn Park Drive
αiπerent a	at other tin	nes,				/STATE: <u> </u>				Woburn, MA 01801